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THE OIL WEEKLY

Devoted Exclusively To The Production and Transportation of Oil and Gas

Engineering News Statistics

The years pass —may the NEW ONE be full of the good things of life for our friends

_____ Entering our fifty-ninth year of SERVICE

BYRON JACKSON CO.

Los Angeles, Calif.

January 2, 1931

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Elliott

CORE DRILLS

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Longer, better cores at the lowest cost per foot of core recovered

There's no feature of any core drill that can substitute for this superior performance of Elliott Core Drills—no reduction in price that can compensate for Elliott's lower costs due to dependable performance. Write for our latest catalog, just issued, and get the facts on core drills.

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REED ROLLER BIT COMPANY

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Timken Roller Pinion Bearing

Flood Lubrication to All Moving Parts

Cast Steel Solid Herringbone Gears

GASO Fig. 710 PUMP

Gives Large Capacities at High Pressures » » »

This pump has one fluid end with interchangeable liners from 2½" to 5" and another with liners from 5" to 7" — giving capacities varying from 1296 bbls. per day at 1400 lbs. working pressure to 12,000 bbls. daily at 300 lbs. pressure.

Shown above is a Gaso Fig. 710 Pump, mounted on steel skids, with V-rope drive from a Buda 90 H. P. Gas or Gasoline Engine, used by the Gulf Pipe Line Co. at Hobbs, N. M. Can also be arranged for V-rope drive from electric motor; with pulley for belt drive; direct driven through flexible coupling from gas or gasoline, or light Diesel, engine; motor driven through silent chain or reduction gears.

Send your requirements for data on Gaso Pumps to meet your needs.

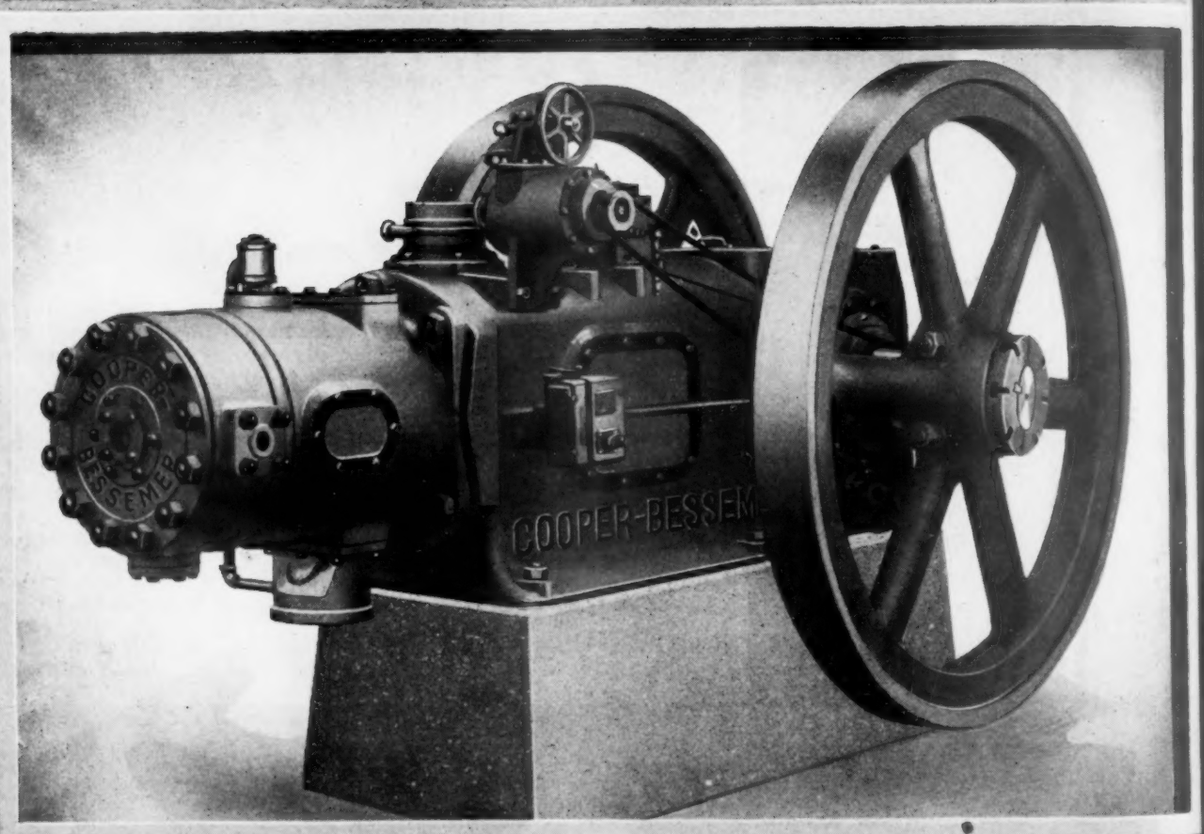
GASO PUMP & BURNER MFG. CO., » » Tulsa, Okla.
Dallas, Texas New York, N. Y.

GASO PUMPS

for every oil industry need

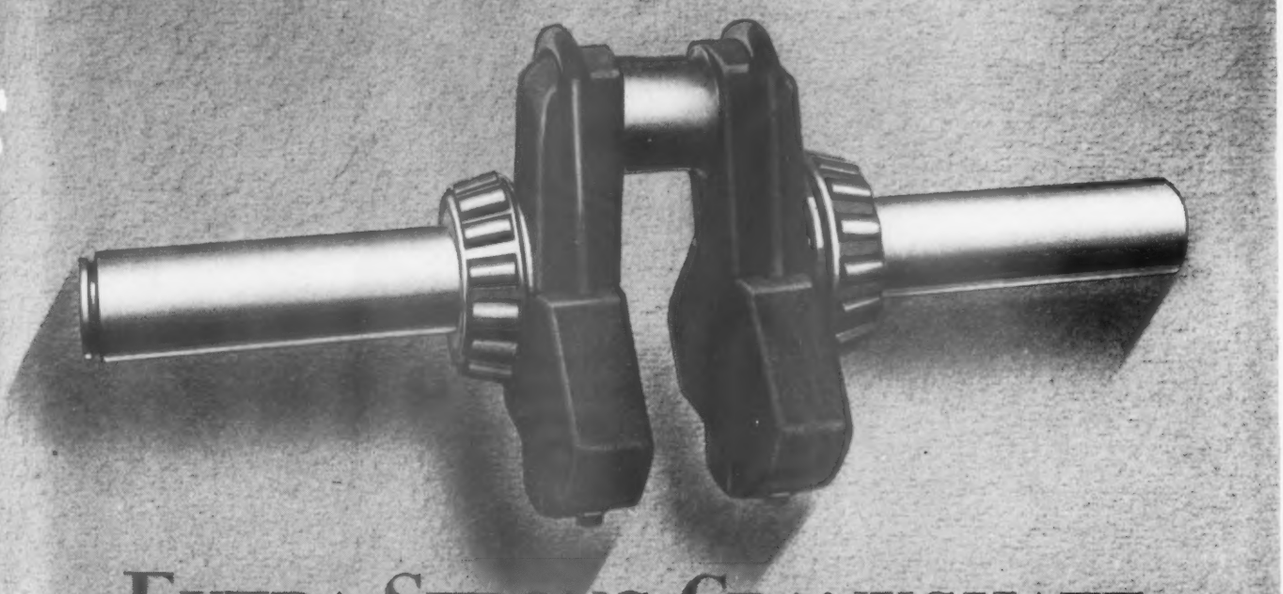
STRONG IN

TYPE GA



COOPER-

ITS VITALS



EXTRA STRONG CRANKSHAFT EXTRA HEAVY BEARINGS

IN that hidden and vital part — the crankshaft — Type GA pumping and drilling engine has ample reserve strength. Considering the horsepower, the crankshaft diameter is extra large. And the shaft is built of high grade heat-treated steel, die-forged so that the flow lines of the metal are uncut. TIMKEN main roller bearings (railway size) likewise help to make Type GA a stronger, better running, longer-lived engine. Similar parts have seen hard service in Cooper-Bessemer Type-16 for more than three years — without a single report of trouble. With strong parts inside a sturdy main frame, Type GA subtracts maintenance and adds production. Sizes 25 to 50 B. H. P.

THE COOPER-BESSEMER CORPORATION

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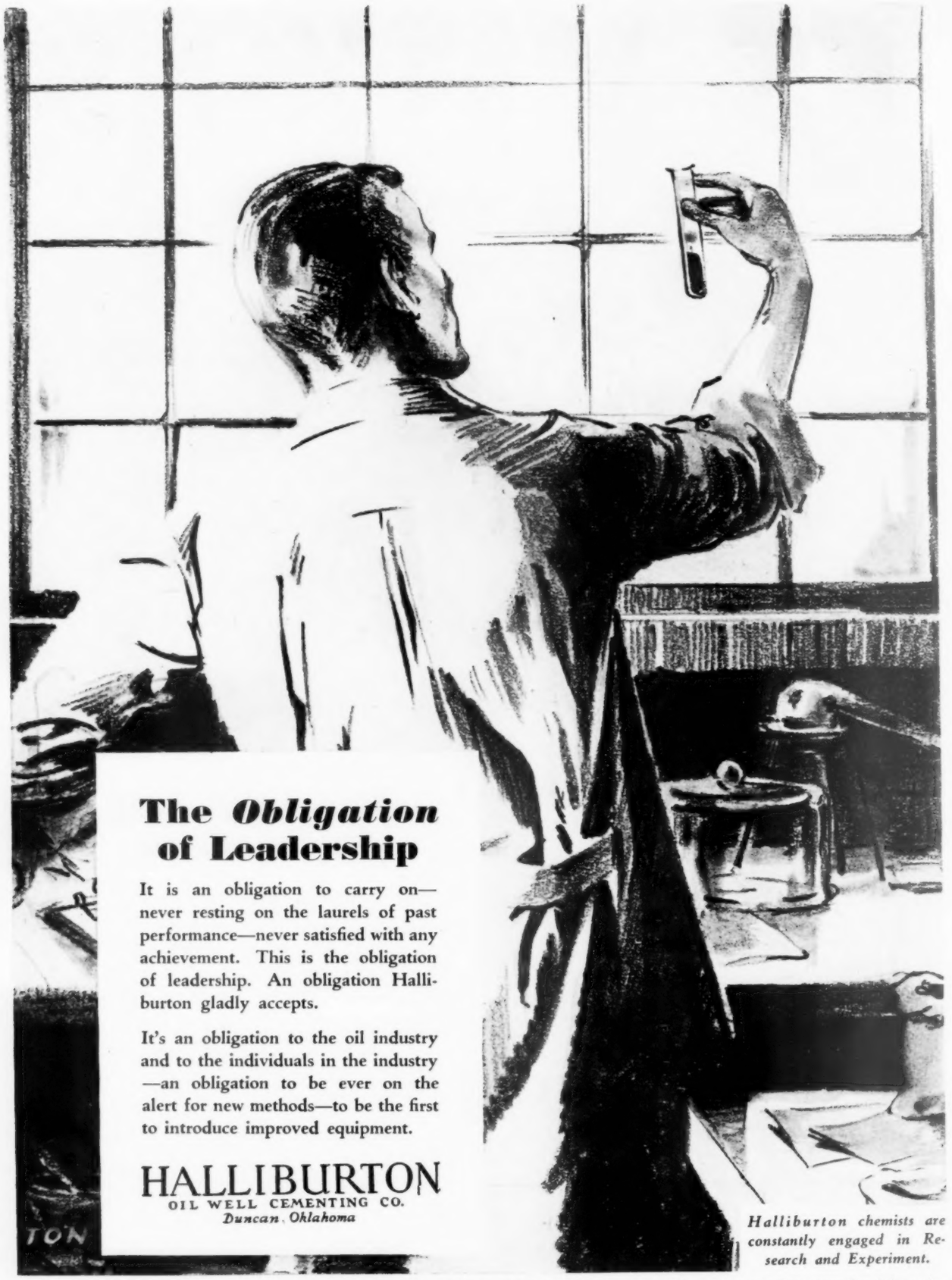
BESSEMER



The *Obligation* of Leadership

It is an obligation to carry on—never resting on the laurels of past performance—never satisfied with any achievement. This is the obligation of leadership. An obligation Halliburton gladly accepts.

It's an obligation to the oil industry and to the individuals in the industry—an obligation to be ever on the alert for new methods—to be the first to introduce improved equipment.

HALLIBURTON
OIL WELL CEMENTING CO.
Duncan, Oklahoma

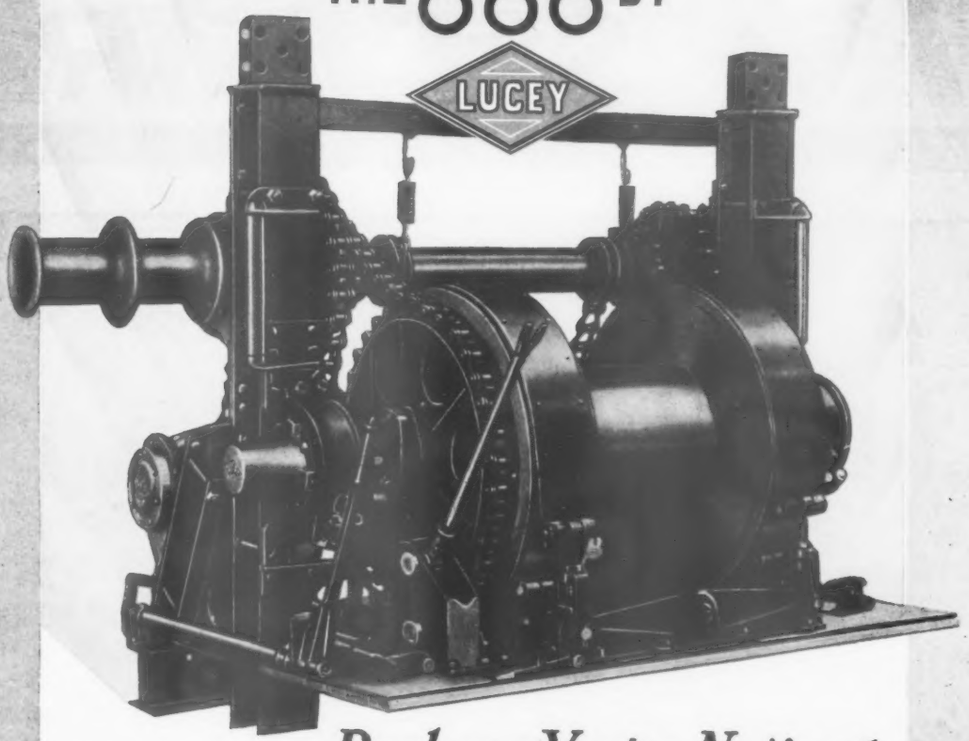
Halliburton chemists are constantly engaged in Research and Experiment.

Would you, as a reader of THE OIL WEEKLY, like to receive copies of THE CEMENTER as issued? Each number contains interesting information about cementing and drilling fluids. There is no cost or obligation—simply sign your name below and mail to Halliburton Oil Well Cementing Co., Duncan, Oklahoma.

Name..... Address.....

A New Type Four-Speed Draw Works

THE 888 BY LUCEY



Perhaps You've Noticed

—the right roller bearing for Draw Works service seems to be the American Heavy Duty Roller Bearing. Of the last four announcements of new designs in Draw Works every one has featured the use of American Heavy Duty Bearings. Six of the most popular Draw Works are now Americanized. Construction engineers wrestling with drilling problems invariably find their best bet in bearings to be the standardized heavy duty bearing of the oil country.

The Drum Shaft, Line Shaft and Jack Shaft are mounted on American Heavy Duty Roller Bearings installed in self-aligning housings. Other features include water cooled drum; 3 to 1 compounded brakes; low, compact construction.

American Roller Bearing Co.

. . . PITTSBURGH, PENNA. . . .

FRANK M. COBBLEDICK CO., 1031 Polk St., San Francisco

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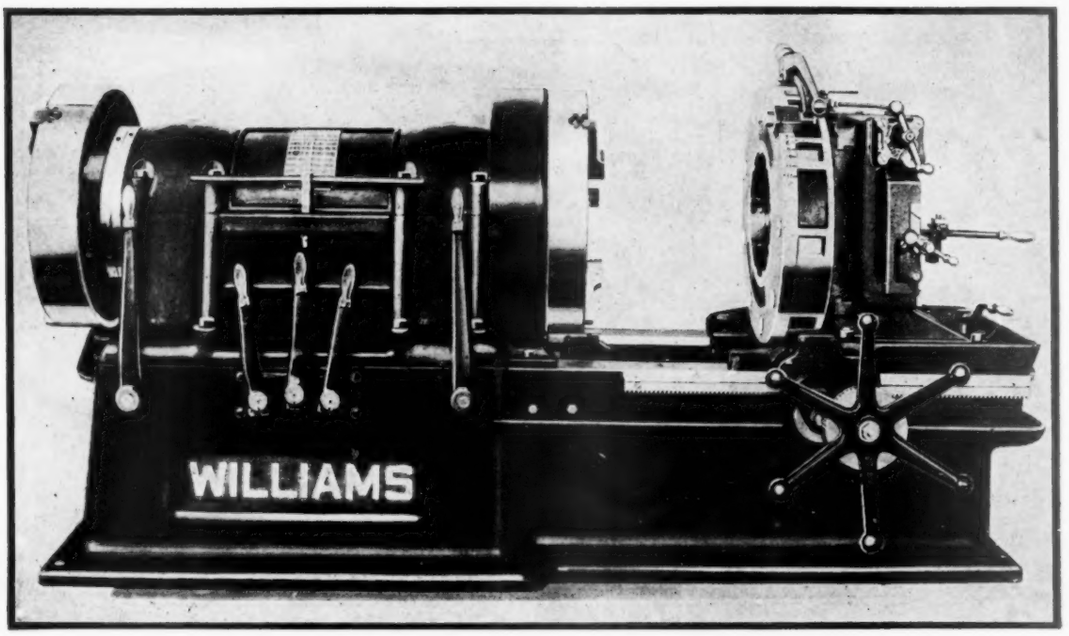
EDWARD D. MALTBY CO., 321 W. Pico St., Los Angeles

AMERICAN HEAVY DUTY ROLLER BEARINGS

FASTER!

BECAUSE THE DIE-HEAD DOES THE WORK!



OF course, the fact that the hardened steel gears run in a constant oil bath, and that the spindle speeds are faster than on any other pipe threader do help to make the Williams Rapiduction a faster machine. But the feature that actually saves the time — the feature that makes the Rapiduction 25% faster than any other production pipe threader — is the Rapiduction die head.

This die head makes it possible to thread from seven to eleven sizes of pipe (depending on the capacity of the particular machine used) without changing dies or die head. Where the pitch of thread does not change it is possible to change from one size to another in less than one minute. Even when the pitch of the thread requires a change of dies, the patented Williams die-holders make it possible to effect the complete change in less than five minutes — a fraction of the time required with the ordinary type of die head. This feature alone saves countless hours of labor time.

There are many other reasons why the Williams Rapiduction is the fastest, most economical-to-operate production pipe threading machine for oil field use. Your supply house will gladly explain them to you. Or if you wish, write for complete information to

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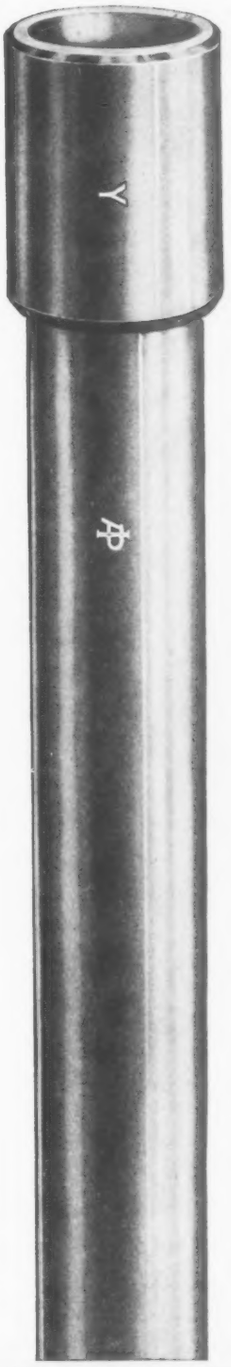
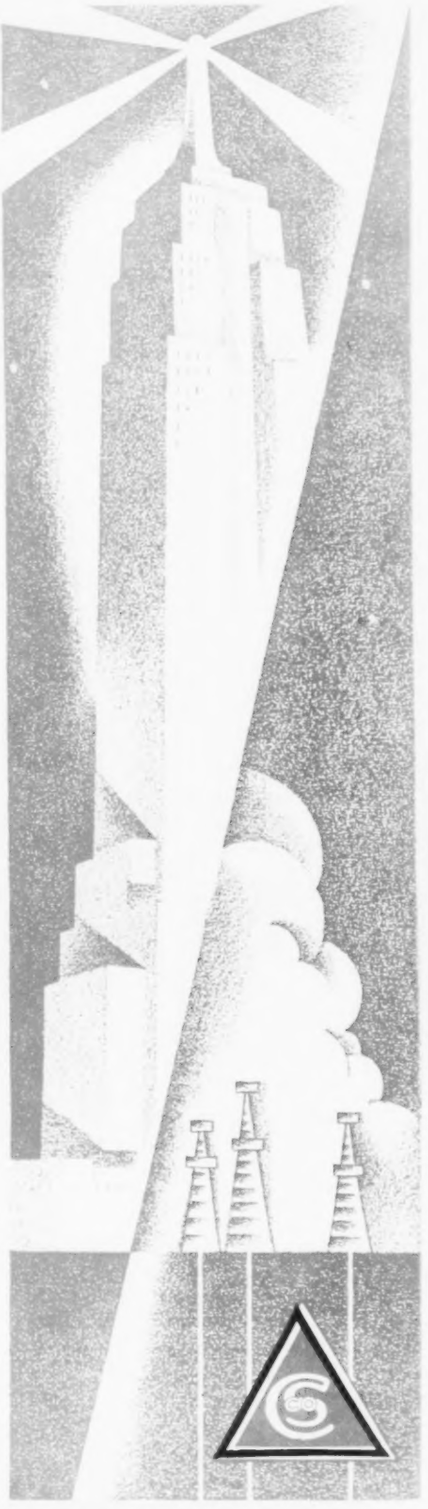
...IN THE DEEPEST WELLS IN THE WORLD!





Stupendous projects requiring materials of known and unvarying quality invariably use Youngstown Pipe because——

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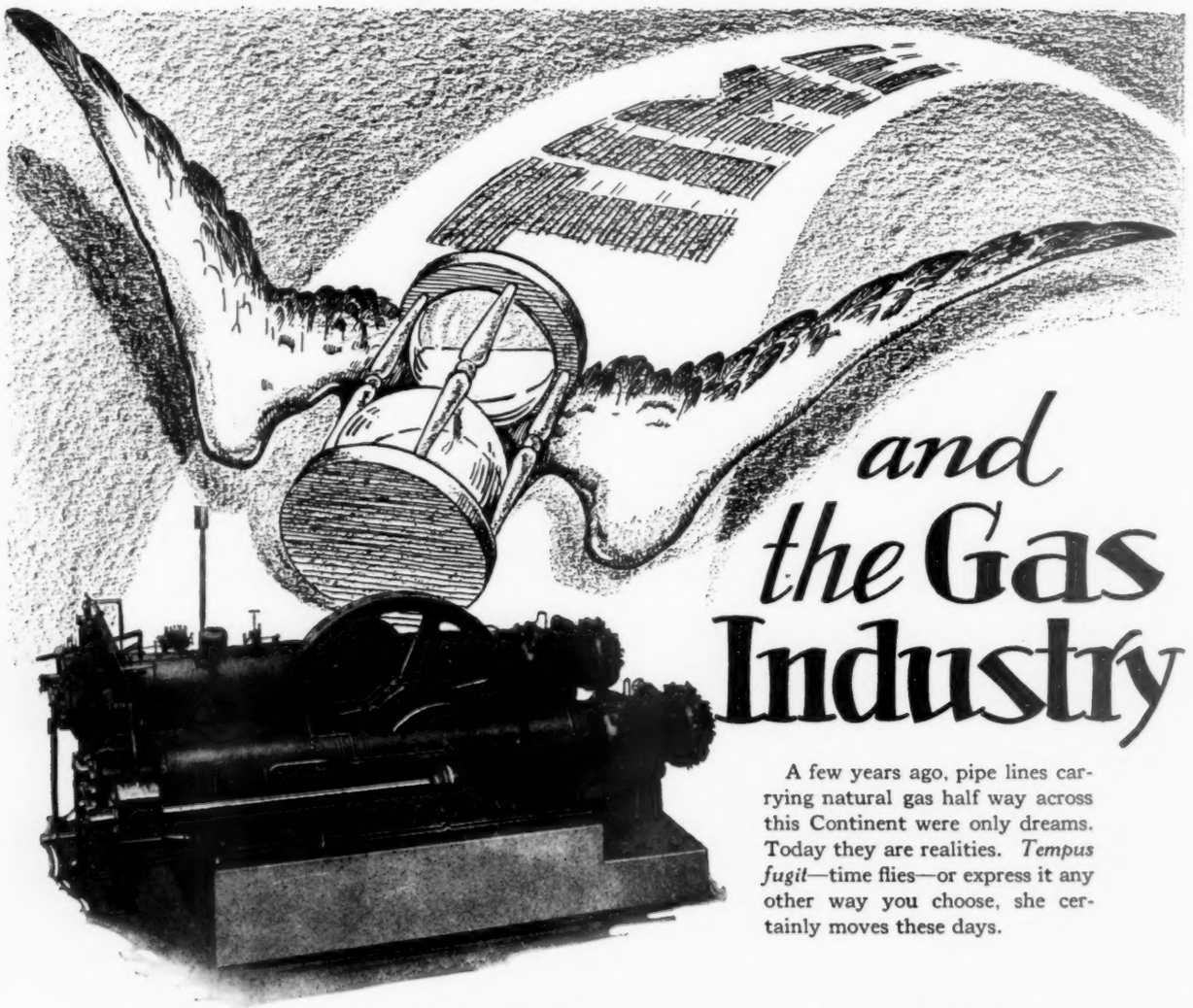
J919

CONTINENTAL



and the Gas Industry

A few years ago, pipe lines carrying natural gas half way across this Continent were only dreams. Today they are realities. *Tempus fugit*—time flies—or express it any other way you choose, she certainly moves these days.

Uninterrupted service to the consumer has been given so much attention that to-day gas is probably the most reliable fuel. Truly, natural gas is in the public eye as never before.

Of course, this advance in the gas industry has called for a corresponding advance in equipment to handle it.

The TRANSIT 17 x 24" Twin Gas Engine-Gas Compressor was brought out to meet a definite demand for a thoroughly reliable up-to-date engine of this size and type. TRANSIT ENGINES have always been noted for their long life. Many of the first gas engine compressors built over thirty-five years ago are still in daily service. Strength is there by reason of correct design and not by a lot of unnecessary metal.

TRANSIT ENGINES are built strong—for long life.

Send for our 48 page catalogue on this compressor.
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a pipe line RECORD

NATURAL GAS comes into Georgia from the Louisiana fields — 23 "Caterpillars" working in three fleets speed the work and cut man-power.

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Not a mule on the job — better, quicker, cheaper power from the "Caterpillars"!

Prices—f. o. b. Peoria, Illinois

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FIFTEEN .	$1450	THIRTY .	$2375
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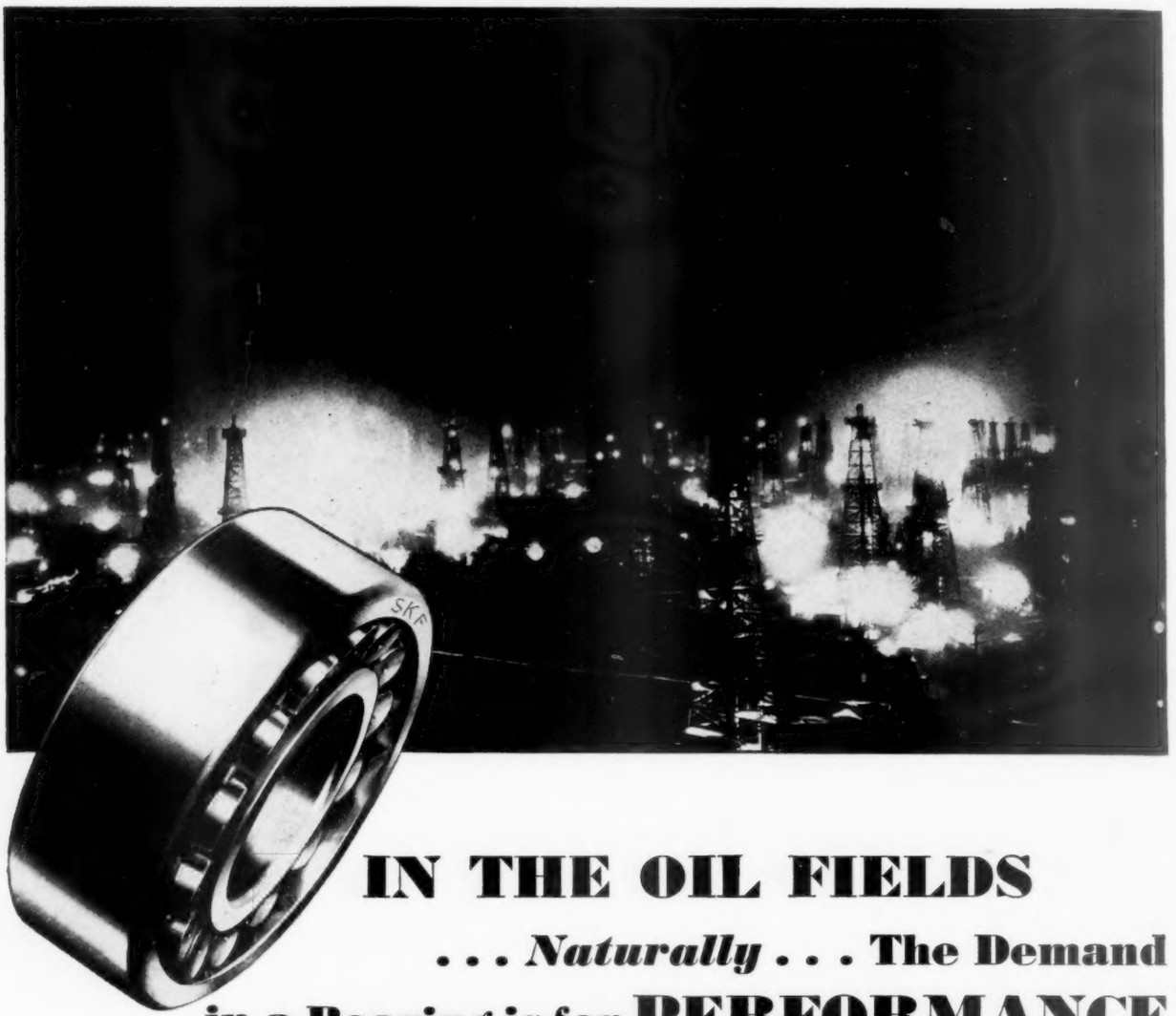

IN THE OIL FIELDS

. . . *Naturally* . . . The Demand in a Bearing is for PERFORMANCE

In Any Bearing... Anywhere... Performance Is The Only Thing That Counts

Where derricks throw their gaunt spectres against the sky and drills burrow into Mother Earth for oil . . . where performance instead of price is the factor upon which practically all equipment is sought . . . there you will find wheels turning on SKF Bearings in constantly increasing numbers.

SKF is the industrial bearing of the world because it performs — because each SKF bearing type was built to do a specific job—because SKF knows it is equipped to do that job before it leaves an SKF Laboratory.

Naturally, such a bearing costs more to make and costs more to buy. But more and more each day industry in general is awakening to the obvious fact that you can't judge a bearing by its purchase price. In a bearing, it's always performance. Performance is the only thing that counts. SKF Industries, Inc., 40 East 34th St., New York, N. Y.

SKF

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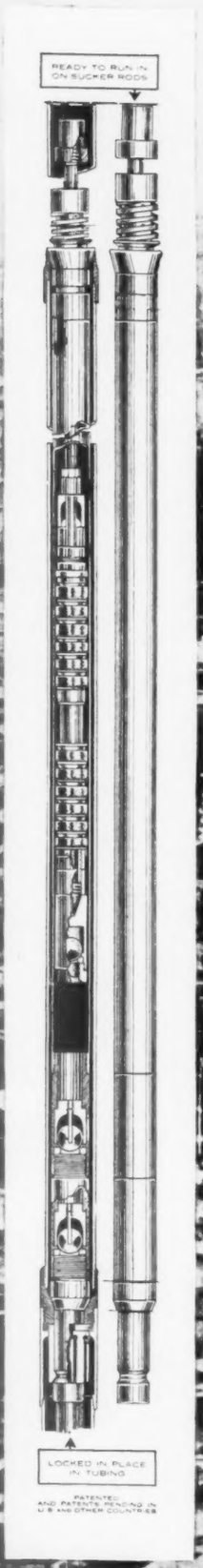
2642

EPCO PUMPS PREDOMINATE

It is with pardonable pride that we look back over the last year and find that MORE and MORE MAJOR PRODUCING COMPANIES THRUOUT THE WORLD have checked up on their pumping costs and have STANDARDIZED EXCLUSIVELY ON EPCO PUMP

We urge you too, to compute your costs We KNOW what you will find



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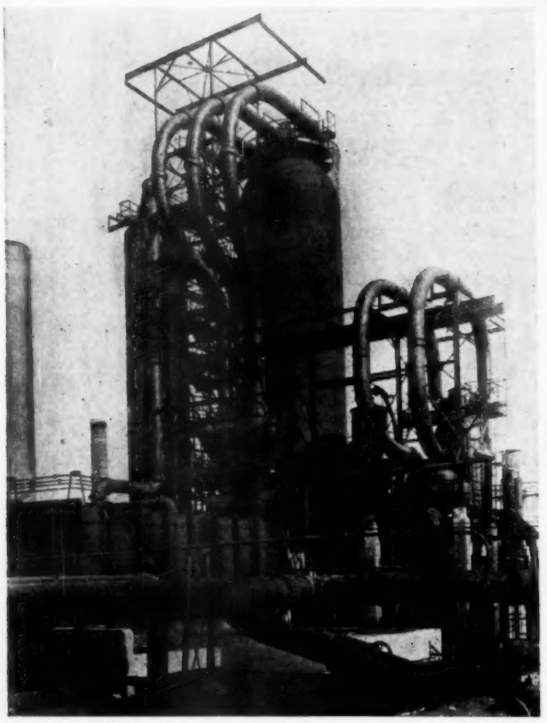

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Gasoline · Lubricating Oils
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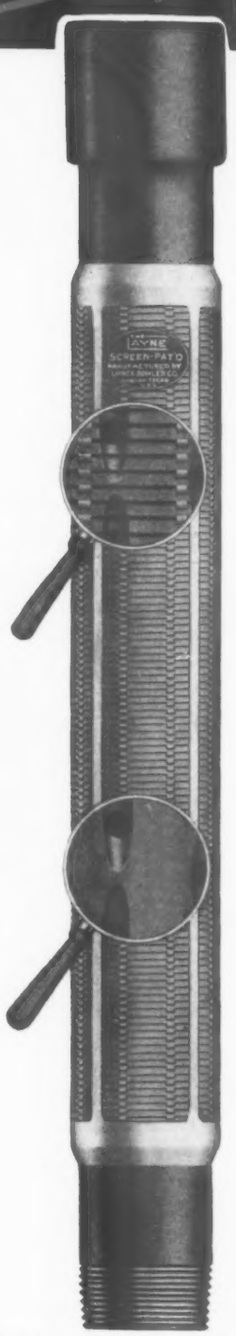
The PRODUCTION CHART GOES UP from 33⅓% to 100%



when you Use THE LAYNE Milled Groove SCREEN,

The "greater production" *Layne Milled Groove Screen* increases production from 33-1/3% to 100% and this fact will be testified to by leading oil companies abroad and in this country.

Tests by Pittsburgh Testing Laboratory revealed the great strength of the *Layne Milled Groove Screen*. It has the ability to safely stand 8,000 feet of drill pipe.

Milled Groove is oil industry's latest, greatest and most important invention, and is the culmination of more than a quarter century's experience in building screens and the solving of screening problems.

Install the "greater production" *Layne Milled Groove Screen* instead of wishing you had.

Write, wire or phone for quick service, catalogue or further information.

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Install Milled Groove Instead of Wishing You Had

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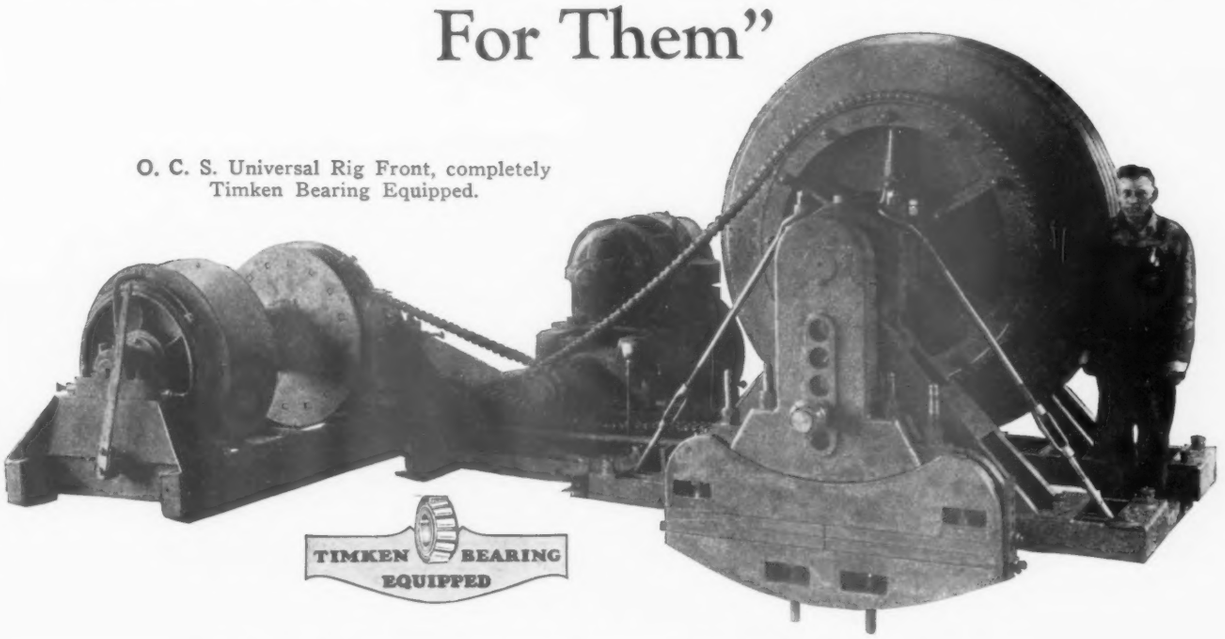
THE NATIONAL SUPPLY COMPANIES

"Bring On Your Toughest Jobs," Says O.C.S. "We're Timken Bearing Equipped For Them"



O. C. S. Universal Rig Front, completely Timken Bearing Equipped.

The oil fields tolerate no weaknesses—heed no alibis. Oil operators must have machinery that will do more than its bit—and keep on doing it . . . without fear or favor. They have neither time nor money to waste on equipment that requires excessive maintenance attention.

So throughout the oil field machinery industry, "Timken Bearing Equipped" is the rule with manufacturers whose equipment is daily satisfying these exacting demands.

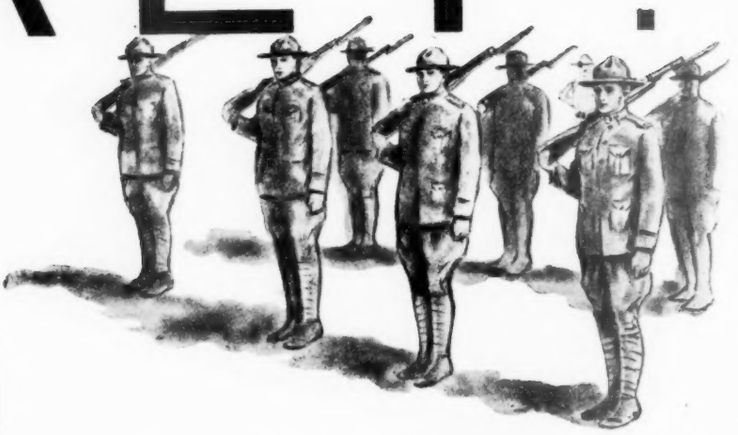
The Oil Country Specialties Mfg. Co., Coffeyville, Kansas, provide Timken anti-friction protection and economy on practically all of the equipment they build, including their Universal Rig Front, Chain Driven Sand Reels and Self-Aligning Jackpost Boxes.

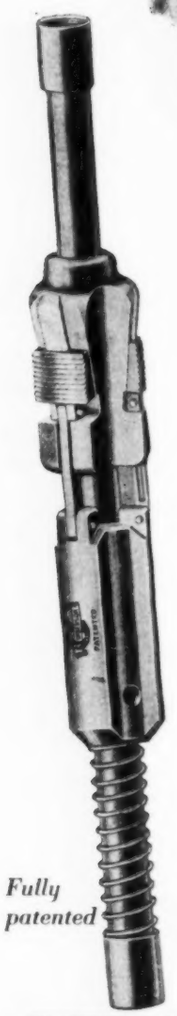
They know that the wide diversity of loads and stresses encountered in these different types of equipment demands more than anti-friction efficiency in the bearings.

They know that inherent thrust-radial capacity is equally imperative, and keen engineering analysis led them to select the bearing that possesses all of these qualifications—Timken—through Timken tapered construction and Timken-made steel. The Timken Roller Bearing Company, Canton, Ohio.

TIMKEN *Tapered Roller* **BEARINGS**

"HALT!"





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» » » FALLING TUBING OBEYS THE GUIBERSON CATCHER LIKE A WELL-TRAINED COMPANY

The name "Guiberson Catcher," where falling tubing is concerned, carries all of the crisp finality of a military command. Indeed, the action of the Guiberson Catcher, when called into play, resembles the positive briskness of the quickest military maneuver.

The Guiberson Catcher will stop a string of falling tubing within three inches. It is tested catching itself within that distance in an empty casing, before it can leave the factory. This is the supreme proof of sensitivity and speedy action, without the aid of fluid in the hole. The strong spring obviates the need of fluid. Heavy stricker weight overcomes the retarding action of mud or paraffin. Dove-tail tracks guide the slips instantly and accurately to the casing walls. Place the Guiberson Catcher "all time patrol" at the foot of your tubing, for protection against ruined tubing, expense and perhaps a ruined well.

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California Branch: 1506 Santa Fe Ave., Los Angeles
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The OIL WEEKLY

Member Audit Bureau of Circulations

JANUUARY 2, 1931

VOLUME 60, No. 3

Edited Weekly at Houston, Texas

SPENCER W. ROBINSON, EDITOR

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Published Weekly

by

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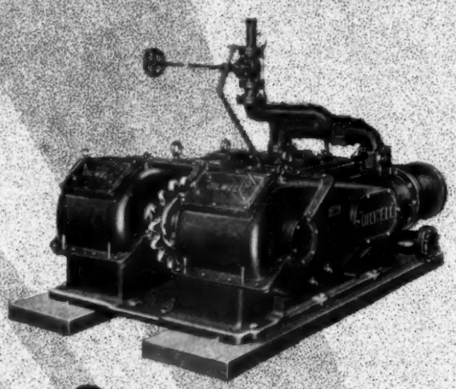

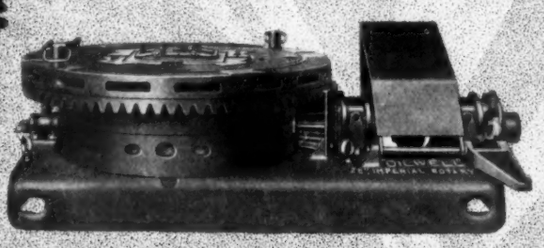

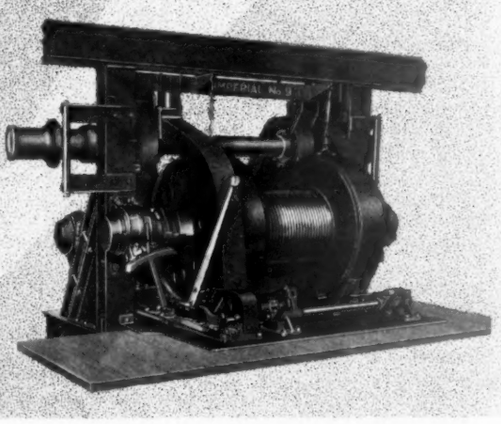

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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

JAN -5 1931

THE OIL WEEKLY

VOLUME 60, NO. 3 JANUARY 2, 1931

Year-End Statement

By E. B. REESER
President, American Petroleum Institute

VICTORY for constructive forces that have held firmly to a common sense policy of proration of crude and curtailment of production of refined products marked the year 1930 in the oil industry.

The better balanced and stronger position now held by the industry was achieved in the face of difficulties that have brought on near demoralization in past years.

The success of proration is evidenced by the fact that crude oil stocks are now over 26,000,000 barrels less than a year ago. This decrease resulted through an active conservation policy despite an unprecedented discovery of new oil pools in all of the major oil producing states. The organization of those engaged in the production of oil made possible the immediate application, through the cooperation of the various state governments, proration laws that prevented waste and maintained the price structure more evenly than was ever before possible during periods when the potential oil production so far exceeded the actual demands.

Proration strongly withstood tests as to its legality in Oklahoma, and evidence was given during the year of stronger support on the part of the national government for conservation methods in the industry.

Adverse conditions that tested the effectiveness of proration and curtailment included more efficient refining methods which netted higher percentages of gasoline and a sub-normal demand for petroleum products on the part of the consuming public.

The increased efficiency in refinery operation today makes it possible on the average to secure a yield of 5.2 per cent more gasoline from a barrel of crude oil than was possible a year ago. This has resulted in a gain in the total of potential gasoline stocks.

The decrease in demand for petroleum products was due in a large measure to the general depression. Indications already point to a return to normal in market requirements for petroleum products. Notably, the demand for fuel oils is far in excess of that a year ago.

The oil industry during 1930 overcame serious threats and maintained a healthy condition basically which augurs a prosperous period during the coming year.

Night scene at Hobbs — lightning was the flash-light

Hobbs Fourth Largest Field In Potential Production

By H. H. KING
Staff Representative

RANKING fourth from a standpoint of leadership on potential crude production, the Hobbs field has firmly established New Mexico as a runnerup to Texas, Oklahoma and California in importance as to available crude supplies. Development work within the past nine months has placed the Hobbs field within the 1,000,000-barrel daily potential class, and at present its oil flowing capacities are exceeded only by the Yates, Oklahoma City and Van fields. In contrast to the latter areas, New Mexico's lone major field has been drilled sparingly in the interest of conservation and also to avoid economic waste. Even though proration has been rigidly enforced since July 10, the Hobbs field will finish the present year with a total crude recovery of about 6,650,000 barrels of 35-36 gravity crude.

Existance of oil and gas production in commercial quantities at Hobbs became known middle June, 1928, when the wildcat test of Midwest Refining Company on State fee lands began filling with oil from lime formation encountered at 4055 feet. This test was drilled in the NEc Section 9-19s-38e on the strength of a pronounced sub-surface high revealed by magnetic and gravity surveys previously employed by the company. Deeper drilling continued at intervals until a depth of 4245 feet was reached on December 17, 1928. Bottom hole water caused the well to be plugged back to 4220 feet, and final completion was recorded April 24, 1929, when the well was rated at 700 barrels daily flowing natural.

Development that followed this isolated oil completion took place on leases to the south, and the discovery company added two wells of equal capacity in August and September, 1929, and Walker Oil Corporation scored its first producer during the following month. Ohio Oil Company explored a lease to the southwest and barely made an oil pumper in December, 1929, after drilling through the oil horizon into water at 4312 feet.

These early completions offered little encouragement for the launching of a drilling campaign, as no market existed for the oil, while every piece of equipment used in carrying on operations had to be trucked from 50 to 100 miles because of absence of a railroad connection in Lea County. In order to obtain information as to the staying qualities of

the production of the discovery well, Midwest Refining Company erected a 55,000-barrel steel tank, and smaller lease tanks were added by other producers. This storage oil was used to some extent in supplying fuel for other tests that followed.

Invasion of Humble Oil & Refining Company into virgin territory about three miles to the northwest of the Hobbs field discovery well revealed the first flush production on January 20, 1930, when this company's D. A. Bowers-Government Permit 1 blew out while coming out with drill stem to test saturated lime at 4061-4106 feet. This outpost well gauged an initial of 8592 barrels of oil and 8,000,000 cubic feet of gas. Bowers 1 was drilled at the center of the NE SE Section 30-18s-38e, and had required about six months to drill because of encountering a flow of 400 barrels 42 gravity oil from sand at 3143-49 feet, and 50,000,000 cubic feet of gas at 3684-87 feet. Wells drilled in the south portion of the field missed these shallow oil and gas horizons, and the drilling crew on the Bowers well were not prepared to handle the unexpected production. Prior to shutting in Bowers 1 for storage and market outlet, the well was killed to install three-inch tubing at 4025 feet.

Development Accelerated

Performance of this outpost well proved a turning point in developments at Hobbs, as nearby lease owners proceeded to explore their holdings, and each location forced from one to three offsets. Wells that followed established new records on initial output, and since last June heavy producers have been in the majority on completions. The field reached a potential of 100,000 barrels daily about middle 1930, and needs for a direct railroad outlet and pipe line facilities were previously recognized by carriers. Texas-New Mexico Railway Company built an extension from Cheyenne, Texas, located on the south line of the New Mexico-Texas border, and ran the first passenger train on April 19 into Hobbs, with regular freight service thereafter.

Atlantic Pipe Line Company received instructions to extend its West Texas trunk line system from Midland to Hobbs on March 27, 1930, and upon learning of this company's proposed invasion of the field, Humble Pipe Line Company ordered on the same day the extension of its line from Jal to Hobbs, a distance of 40 miles. The former was required to build 79 miles of pipe, and began filling the carrier with Hobbs crude July 8. Humble Pipe Line Company's unit was placed in operation May 8. Both lines are operating without intermediate pump stations. Shell Pipe Line Company furnished the third trunk line outlet for the field on July 10, having built 22 miles of eight-inch to the SEc Section 16-19s-383, where connection is made with the Lea County system of The Texas Pipe Line Company. The latter two concerns function as joint carriers to Wink, Texas, where the crude is distributed.

Early completion of Humble Pipe Line Company's system afforded market outlet for the opening of Humble Oil & Refining Company's Bowers 1. This well was placed on open flow May 7, and yielded 161,680 barrels during the remainder of the month. During June an oil recovery of 220,194 barrels was credited to this well, and total recovery advanced to 441,074 barrels up to 7 a. m. July 10. Steady production performance of this well stressed the need for a proration program in the field, and preliminary plans for placing restrictions on production and drilling were launched by operators at a meeting held in Dallas, June 11.

Application of proration restrictions on the Hobbs area went into effect on the morning of July 10. The field was then credited with having 25 wells on 22 40-acre units, with a combined average potential of 146,501 barrels daily. The maximum daily market outlet was fixed at 35,000 barrels for the six-months proration agreement, which met the approval of the New Mexico officials. This proration plan is operated by an advisory committee of seven operators, with the state geologist and land commissioner as exofficio members. Warner Clark was elected chairman, but has since been transferred to California and succeeded by E. G. Allen, Shell Petroleum Corporation, Dallas. In order to discourage unnecessary drilling in the field, the proration plan uses average potential per unit, and to date only 10 units have two wells on same, while there is one unit in the field that bears three wells. Protection against offsets forced the drilling of these extra wells.

What the Rules Say

Proration rules at Hobbs also requires the installment of three-inch tubing in all wells upon completion, thus affording means for applying back pressure and conserving the gas flow that is encountered above and with the oil supply. Wells completed between the 15-day proration period are not allowed to go on production until the following period. Potential yield of wells are determined by flowing

Hobbs Proration Figures

Recapitulation of detailed report on Hobbs field proration for the December 16-31 period, as compiled by Umpire C. G. Staley, follows:

Company—	No. Wells	No. 40-Ac. Units	Total Average Potential	Daily Production Allowance
Shell Petroleum Corporation	19	17	145,638	4,002
Amerada Petroleum Corporation	10	10	127,526	3,211
Midwest Refining Company	21	19	90,406	4,032
Humble Oil & Refining Company	11	10	111,748	2,888
Continental Oil Company	7	7	88,321	2,229
Gypsy Oil Company	7	7	90,174	2,267
The Texas Company	7	7	48,799	1,419
Ohio-Phillips Petroleum Company	5	4	48,760	1,238
Empire Gas & Fuel Company	6	6	46,747	1,322
Tidal Oil Company	7	5	58,209	1,493
Geo. F. Getty Oil Company	3	3	44,906	1,304
The California Company	4	2	17,728	483
Ohio Oil Company	5	5	21,286	696
Sun Oil Company	4	4	46,073	1,183
Skelly Oil Company	2	2	13,478	397
T. P. Coal & Oil Company	2	2	14,515	417
Prairie Oil & Gas Company	4	3	12,179	429
Landreth et al	2	2	11,761	361
Walker Oil Corporation et al	2	1	.....	500
California Company et al	1	1	7,452	213
Humble-Kirby	1	1	17,237	413
Atlantic Oil Producing Company	2	2	8,456	293
Mid-Continent Petroleum Corp.	1	1	2,592	113
Vacuum Oil Company	1	1	2,138	104
Total	134	122	1,076,329	31,207
Total December 1-15	130	116	1,010,356	30,031
Total November 16-30	122	109	973,188	29,867
Total November 1-15	114	101	901,255	31,300
Total October 16-31	106	97	819,193	31,715
Total October 1-15	89	79	678,406	32,340
Total September 16-30	74	65	526,044	33,250
Total September 1-15	54	46	415,535	33,935
Total August 16-31	42	35	287,246	32,250
Total August 1-15	28	24	167,765	35,010
Total July 16-31	27	24	158,428	34,990
Total July 10-15	25	22	146,501	35,004

open for a brief period, but a substitute plan of flowing wells through tubing only, with a curve system to estimate the maximum flow will be tried in January for a 90-day period. The latter system is optional with operators, and brief open-flow gauges will be allowed when requested.

Hobbs field was credited with an average potential of 1,076,329 barrels daily from 134 wells on 122 units on December 15 by Umpire C. G. Staley, and during the ensuing period the maximum daily allowance will be 31,207 barrels daily. Potential for the field is 1,183,222 barrels, as units with more than one producer on same only get credit for the average output of said wells. Shell Petroleum Corporation's State "A" lease has three wells on a single unit, and is credited with a potential of 11,944 barrels, but actual potential is three times the above figure. Reference to the accompanying table affords striking proof of the rapid rise of potential figures in the field. The decrease and fluctuations in production allowance is due to loss in production quotas of the companies that absorb their own output, but do not nominate a figure. Actual nominations are only made by Atlantic Oil Producing Company, Shell Petroleum Corporation, and Humble Oil & Refining Company, and these have remained unchanged since proration began.

Accumulated production of each unit, or well in the Hobbs field, as listed in the accompanying detailed well table, dates from beginning of proration to December 1, and involves a total of 4,676,450 barrels. The total on December 16 increased to 5,152,032 barrels, or 38,448 barrels per well. It is interesting to note that 13 units have produced in excess of 100,000 barrels since inauguration of proration restrictions. Previous to proration Hobbs produced approximately 1,000,000 barrels. Humble Oil & Refining Company's Bowers 1 holds the lead with a recovery of 441,074 barrels. This well was deepened November 10, 1930, from 4106 to 4215 feet, and gauged 7622 barrels oil and 11,000,000 cubic feet of gas. Production from Shell Petroleum Corporation's wells prior to proration follows: Thorp 1, 63,028 barrels; State 1-A, 43,754 barrels, and McKinley 1-A, 154,214 barrels, making total of 260,996 barrels. Amerada Petroleum Corporation's McKinley 1 yielded 30,608 barrels and McKinley 2, 10,825 barrels prior to proration restrictions, and Tidal Oil Company recovered 9555 barrels from its Grimes 1. Walker Oil Corporation produced approximately 50,000 barrels, while Midwest Refining Company is credited with having produced about 150,000 barrels from seven wells before July 10.

Oil drainage from the Hobbs structure, which is now 6½ miles in length and a maximum of two miles in width, has not been sufficient to arrive at close estimates as to probable oil recovery. However, qualified students of conditions in the field are predicting from 17,500 to 22,500 barrels per acre over the entire field, with a total recovery of more than 100,000,000 barrels on preliminary estimates. Oil and gas drainage to date has not reflected in casing and tubing pressures on completed wells, nor has it cut down the initial performance of new wells. An average initial of 8830 barrels each is now credited to the completed wells, with a peak of 25,531 barrels held by Continental Oil Company's State 3-A.

South End Eliminated

Territory to the south of the discovery well is virtually eliminated from the flush production area, although several large flowing wells have been scored on the extreme south portion of the structure. Variations in production performance of wells completed in the north portion of the field are noticeable, especially on the west flank of the "high," as an occasional big producer is brought in near comparatively small wells, but such conditions are largely due to porosity rather than position on the structure. Penetration into the oil saturated lime is usually about 150 feet, but a number of wells have been carried through the oil horizon, as indicated by the well table.

Introduction of rotary equipment for all drilling work in the field took place at the early stages of development, as heavy gas flow and high rock pressure in the upper section of the lime was too great an obstacle for cable tools. The saving on casing also furnished a clinching argument for rotary. All drilling has been performed, with few exceptions, by drilling contractors, who have been paid from $7.00 to $8.50 per foot. A short string of 12½-inch surface pipe is cemented near the 300-foot level, with about 300 sacks of cement, followed by the landing of a string of 9⅝-inch pipe at about 2850 feet. The latter is also cemented. The final string consists of seven-inch pipe at about 3950-foot level. General practice is to core into the 4000-4200-foot oil saturated lime horizon with a loaded hole, then install tubing before unloading the hole for completion test. No liners are used in the field.

Gypsy Oil Company's Graham 1, an outpost well on the northwest end of the field, holds the record for fast drilling time. This well was spudded August 3 and blew in as a producer on September 30, but failed to land the last string of pipe, so actual completion time was more than 30 days. Average drilling time is about 45 days for the field.

Little Water Encountered

Water encroachment upon the lime horizon at Hobbs is limited to only one well, and that is a pumper that was drilled through the oil horizon by Ohio Oil Company. The Texas Company's Selman 1, located on extreme south end of the field, is a pumper also. All other wells are flowing natural. Few fields, if any, have such a record considering the area involved and length of time that some of the wells have been on regular production. No dry holes have been drilled in the field, and the nearest are removed one-half mile or more from production. The prolific section of the field remains to be defined for production, although a dry hole was recently completed more than a mile to the east, and also one nearly 1½ miles to the north. An outpost test drilling about four miles to the west of the field is being watched closely for it is correlating formations favorable with producers.

Two natural gasoline plants are handling the gas produced from wells in the Hobbs field. Shell Petroleum Corporation and Continental Oil Company joined in erecting a $300,000 absorption plant in the SW of W½ of SE Section 19-18s-38e. This plant began operations October 3, and is producing 20,000 to 23,000 gallons daily. Phillips Petroleum Company erected a 40,000,000 cubic foot daily capacity plant in NW Section 4-19s-38e at an investment of about $750,000, and also started operations early in October. The gas yields slightly more than one gallon per 1000 cubic feet. No refineries are located in the field.

Depletion of the deep lime horizon in the Hobbs field for production will be followed by ripping of casing and producing wells from high gravity oil horizon now being passed up from sandy-lime formation at 3100-3300 feet. This upper formation is encountered in most wells in the north half of the field, and has attractive production possibilities as evidenced by Continental Oil Company's State 2-A, which was rated at 1000 barrels daily at 3153-61 feet, and 3000 barrels at 3355 feet.

Hobbs Area Presents Many Geological Problems

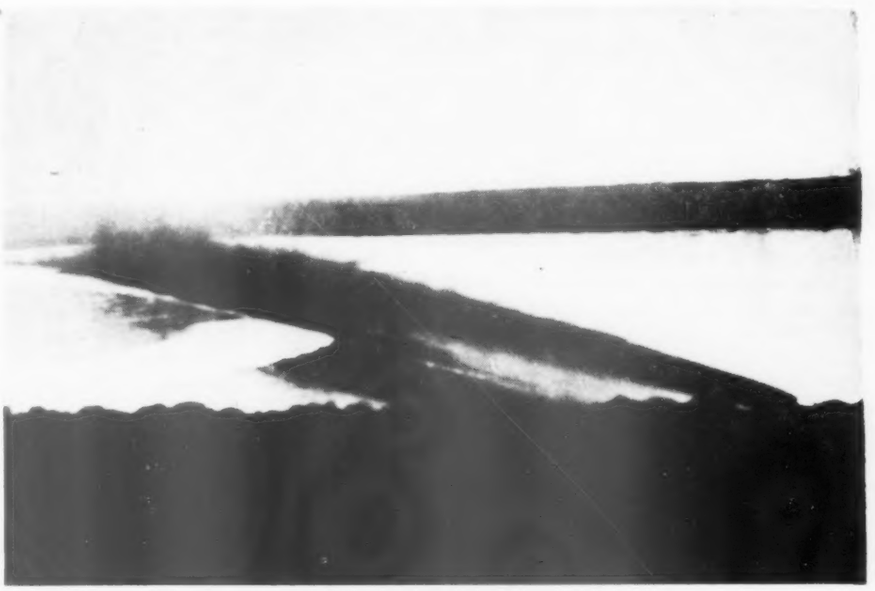
By FLOYD SWINDELL
Staff Representative

General Geology

THE Permian basin, covering an area of approximately 200,000 square miles in West Texas and Southeastern New Mexico, offers perhaps more geologic problems than any other on the North American continent. Later Paleozoic strata underlying the basin are concealed by great thicknesses of sediments restricting knowledge of these formations to that revealed by the study of cuttings from deep wells. Permian sediments were deposited under extraordinary conditions and on an unprecedented scale. Determination of the origin, nature, and correlation of the beds has been aptly compared to "the seeking by a blind man in a totally dark chamber for a black cat."[1] Comparison of the sections obtained in various fields in the basin is complicated by abrupt changes in the lithology and fauna.

The basin has been divided into three structural units, namely, the main Permian Basin, central basin platform, and the Delaware mountain basin, each having a distinctive stratigraphic section. The Hobbs pool is located near the eastern edge of the central basin platform as defined by Cartwright.[2] This unit is a regional limestone "high" on which there are pronounced changes in the limestone section penetrated east and west across it. Two theories have been offered in explanation of these abrupt lithologic changes. The first recognizes an extension of the Capitan reef system bordering the Delaware mountain basin, back of which is a lagoonal facies comprising dolomitic limestone, sandstone and anhydrite. The second recognizes an older dolomitic limestone known as the "white gray lime," on the eroded surface of which is a heterogenous deposit of dolomitic limestone, sandstone, and anhydrite known as the "brown lime."[3] The latter explanation is accepted in the following discussion. Due to the stratigraphic variation between structural units and between individual pools of the basin, no attempt has been made to show the relation between production in the Hobbs pool and that obtained from structures adjacent thereto.

The topography of the county is relatively level, being broken in places by low irregularly aligned sand dunes striking at right angles to the direction of prevailing winds. Minor drainage lines follow the gently dipping surface southeastward. According to Darton's classification,[4] the southwestern corner comprising approximately one-third of the county, is covered with alluvium, bolson deposits, and dune sand of Pleistocene and recent ages while the remainder is covered with beds of the Ogalalla formation of Miocene and Pliocene ages. There are two irregular patches of the Dockum Group outcrop, one in the southwestern corner of the county and the other in the southeastern part. Prolific water sands are encountered at depths less than 100 feet over a large part of the county.



Completing well by flowing into pit. Pits are located 100 to 150 yards from well. Cut oil is burned after completion.

Special Insert Map

Showing well locations, contours and other geological and well data, accompanies this issue.

Stratigraphy

The entire area of the Hobbs pool is underlain by a cap rock of somewhat impervious caliche, covered by sandy soil varying from a few inches to several feet in thickness. The caliche deposits, believed to be the result of long periods of leaching and evaporation of underground waters carrying large amounts of mineral salts, average about 35 feet in thickness and are encountered at depths less than one foot over much of the field.

Directly underlying the caliche are thick beds of Triassic age, predominantly red in color and consisting of rather hard coarse-grained sands, lime-

TYPE SUB-SURFACE SECTIONS*

Age	Formations	New Mexico (Roswell)		Reeves County (Delaware-Castile)		S. E. Lea County (Big Lime)	
		Lithology	Thick	Lithology	Thick	Lithology	Thick
Quarternary		Caliche-Mescalero Ss.	0-250	Caliche-bolson	0-25	Caliche-Mescalero Ss.	0-250
Triassic	Dockum Group	Red Beds	0-500	Red Beds	0-400	Red Beds	0-1500
Permian	Pecos Valley Red Beds	Red Beds and Gyp	0-500	Red Beds—some gypsum	0-500	Red Beds-some gypsum	0-500
	Rustler-Castile-Carlsbad Group	Salt-red beds and anhydrite	0-1600	Dolomite-anhydrite salt stringers	0-200	Dolomite-anhydrite salt stringers	25-150
				Salt-potash and anhydrite stringers	0-2500	Salt-potash & anhydrite stringers	0-2000
				Anhydrite-Lime stringers-some salt	200-400	Anhydrite-sands	
				Clear Salt-anhydrite	200-750	Anhydrite-Dolomite stringers	
				Anhydrite & Limestone	50-400	Brown Dolomite-Brown & red sands	20-1200
	Delaware Mt. San Andreas Yeso Leonard (Bone Spring) Abo Group	Dark dolomite Ls.	400-1200	Dark limestone	25-75	Dolomite & Gray sandstones	100-300
		Coarse grained Ss.	10-60	Fine grained sands-lime, some shale	2000-2500		
		Brown and red shale, some salt-anhydrite and limestone	2000-2500				
		Dark red Ss. and shales-arkose and conglomerate	750-1500	Black & gray limestones	800+	Light dolomite	500-1700
Penna.	Magdalena	Limestone—some sand and shale	550+				

* Blanchard, W. Grant, Jr., and Davis, Morgan J., "Permian Stratigraphy and Structure," A. A. P. G. Bulletin Vol. 13, Pt. 2, pp. 989.

stone shells, and shale. Some non-red shales are encountered. This series is included in the Dockum Group which is divided into the Chinle and Santa Rosa formations in other parts of New Mexico. Thickness of the Dockum Group is approximately 1300 feet as compared with a maximum thickness of about 1500 feet in West Texas. Since the Triassic sediments are of terrestial origin, and it is likely that no oil was generated in them, no detailed study has been made of the Santa Rosa sand.

Probably the best criterion for differentiating between the Triassic and the underlying Permian, both of which are largely of Red Bed character, is the presence of bedded salt and anhydrite in the Permian while gypsum and anhydrite occur only in relatively minor amounts in the Triassic. That part of the Permian section which has been penetrated in the Hobbs pool consists of approximately 2900 feet of vari-colored anhydrite, shale, dolomite, sand, salt, gypsum, dolomite and limestone. Two graphic logs presented herewith show the stratigraphic differences between the northern and southern parts of the pool. In the northern part the Permian consists of approximately 16.4 per cent red bed, 22.4 per cent salt, 40.5 per cent anhydrite and gypsum, 1.7 per cent sand, 3.4 per cent shale, and 15.5 per cent dolomite and limestone. No attempt has been made to determine the exact percentages of each type of rock, the figures being obtained by estimating from a representative formation record.

The Brown Lime

The Brown lime or dolomite, top of which has been generally used as a guide in determining structral position, is encountered at depths ranging from 2730 to 2945 feet in the productive parts of the pool. This formation consists of thinly bedded, buff to brown or grayish dolomite occuring in the samples in varying amunts of from 10 to 40 per cent. A gas show is usually encountered 15 to 25 feet below the top.

Approximately 375 feet below the top of the Brown lime, a formation locally known as the Bowers sand, is encountered. The zone is composed of gray and brown sands, sandy limes, and sandy shales in the upper part grading into fine to medium grained brown and gray sand 10 to 15 feet below the top. First show of oil and gas is usually about 10 feet below the point where the section begins to show appreciable amounts of sand. Several wells on the structure have encountered oil in commercial quantities and practically all of the wells in the northern part of the pool have had difficulty in drilling the zone, especially when cable tools were in use.

At a point approximately 600 feet below the top of the Bowers sand the section begins to show limestone in rapidly increasing amounts. This zone has tentatively been correlated with the San Andreas which attains a maximum thickness of 1200 feet in subsurface near Roswell and outcrops about six miles west of that town. In the type section it is composed of massive dark gray or brown limestones, with a few shale and sandstone partings. Subsurface explorations to the north and east of the type section show the division grading into anhydrite and salt with only the basal part a pure limestone slightly more than 200 feet in thickness. In the pool the section is composed of brown and gray dolomites, limestones, and anhydrites with minor amounts of sandstones, red and gray shales and some green bentonitic shale.

The section between 3900 and 4050 feet contains several very finely crystalline, porous, brown and gray limestones which yield small showings of oil. Two of the beds have yielded fossils but no information concerning their identity, was obtained. Below 3985 feet little or no anhydrite is encountered. The upper part of the pay zone is composed principally of very finely porous, dense to slightly porous, sandy, gray and brown limestone and dolomite with minor amounts of shale. Lateral gradation is noticeable in the pay zone in comparing the northern and southern parts of the pool.

The entire Permian section in the pool is soft as compared with that encountered elsewhere in the county. In the

(*Continued on page 90*)

Hobbs Drilling and Production Methods and Equipment

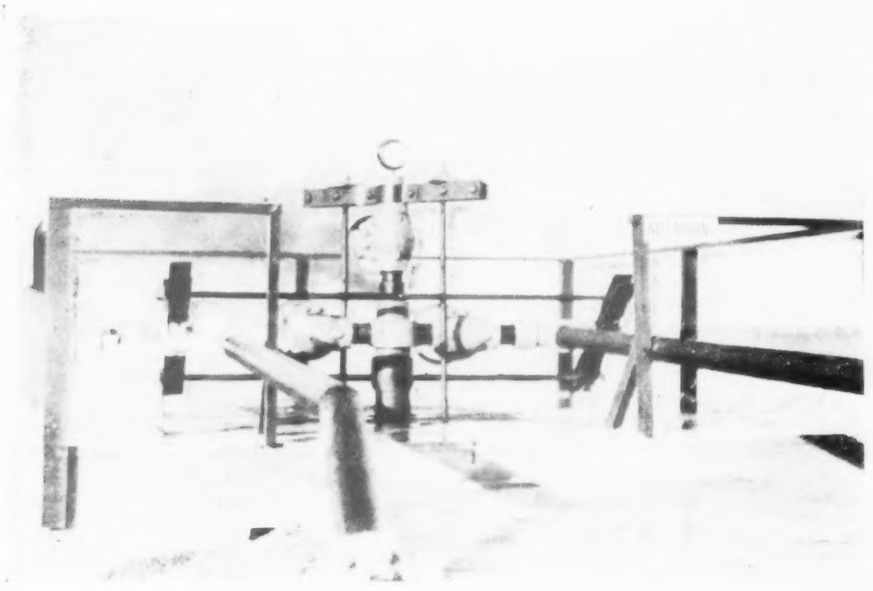
By FLOYD SWINDELL
Staff Representative

HARDNESS of the uppermost formations has made the use of cable tools in the Hobbs, New Mexico, field, a general practice for the first 200 feet or more or hole. At this depth, rotary tools do not have the advantage of great weights of drill pipe and have no mechanical means for bearing down except by the weight of the pipe. Relatively thin beds of hard rock near the surface have failed to respond even to the cutting action of rock bits. For this reason many of the operators are building combination rigs, setting surface pipe with cable tools, and rigging up rotary for use from that point downward. Practice varies over the field. Doheny-Stone Hydril was used for one well for Getty Oil Company and a Sheldon-Burden hydraulic on one well for Humble Oil and Refining Company. With these two exceptions, all drilling has been done with the usual type of rotary and cable tool strings.

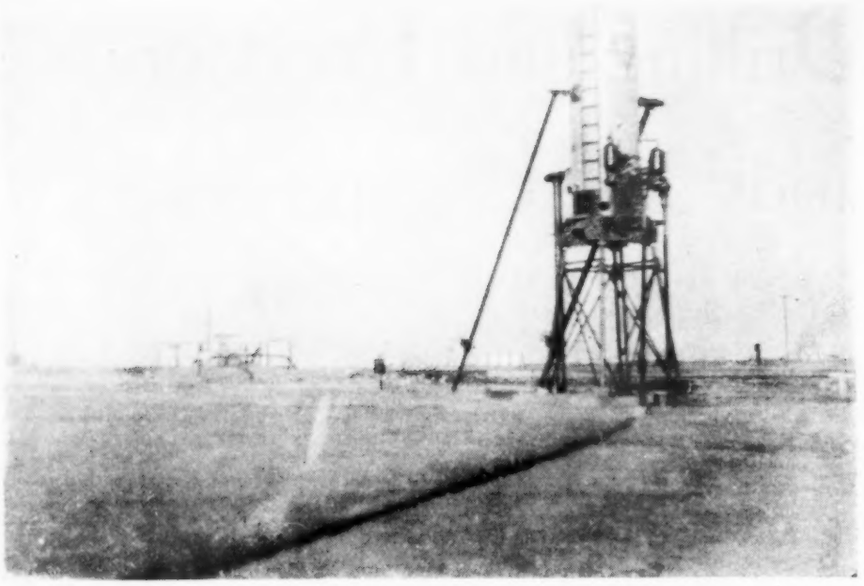
Average time required for completion of a well is about 60 days, including approximately 15 days for setting of cement on the various strings of casing. In parts of the field where large volumes of high-pressure gas are not expected in the upper sands, cable tools are used for drilling the largest part of the hole. As compared with other Permian Basin pools, formations in the Hobbs pool are relatively soft. It is not uncommon for cable tools to make as much as 40 or 50 feet per 12-hour tour. This has led to further use of the method because of lesser expense per foot of hole. However, some of the wells at which this practice has been followed, have encountered considerable difficulty in getting through the gas sands. Between 2000 and 2600 feet in various parts of the pool, drillers have reported what is commonly called an air-pocket. Gas from these formations is non-inflammable and was at first thought to be helium or one of the other rarer gases.

From approximately 200 to 1200 feet, when the rotary method is used, drilling is done with disc bits. From 1200 feet to the bottom, rock bits have been used almost exclusively. Baroid, Opalite, El Paso clay and other admixtures have been used in the mud fluid. No surface exposures in southeastern New Mexico furnish a suitable material for making drilling fluid, all of the material having been introduced from elsewhere. Weight of the fluid varies from that of clear water to a maximum of about 14 pounds per gallon. In drilling the upper sands, especially the "Bowers sand," maximum weight is used while many of the wells are completed with clear water. Due to the scarcity of material for making fluids, many ingenious devices have been used in reconditioning mud. Vibrating screens have been used on a large scale.

Number of feet of surface pipe depends upon individual opinion of the operators. In general about 250 feet of 15½-inch A. P. I. seamless pipe is set with 60 to 100 sacks of cement; 9⅝-inch or 8⅝-inch, 40-pound seamless pipe is set below the air-pocket zone and above the top of the "Bowers sand" with enough cement placed behind the pipe to protect the upper sands. This requires from 400 to 700 sacks. Some of the companies are setting 10¾ or 10⅝-inch casing at or around 1600 feet with 75 to 100



Well hook-up used by Continental Oil Company in the Hobbs field, showing a Brown Retracting Tubing Head.



Separator hook-up used by Continental Oil Company in the Hobbs field, showing National Separator.

sacks of cement and using 8⅝-inch casing at a depth of about 4000 feet. A relatively small amount of cement is used behind the 8⅝-inch casing; 6⅝-inch or seven-inch casing is cemented with about 200 sacks near the top of the pay zone.

Well Methods Vary

The method of completing wells has varied only slightly. The entire producing section is drilled and heavy fluid replaced by clear water to enable the running of tubing. Rock pressure in parts of the pool practically equals the hydrostatic pressure of a column of clear water and operators have been forced to pump considerable amounts of water into the producing formation to hold the well while tubing is run; 2½-inch and three-inch seamless, upset tubing is set from four to 292 feet off bottom with the average at about 52 feet. Midwest Refining Company makes a practice of setting the tubing somewhere near the top of the producing zone, while all other operators, with a few exceptions, have set well below the top. When the tubing has been set the well is either closed in to build up sufficient pressure to clean itself or is swabbed until flow is induced. Pits are dug 100 to 150 yards from the well and four-inch flow lines run to them. Flow is directed into the pits until the percentage of B.S. and water has declined to about 15 per cent, when production is turned into the tanks. Under this method it is necessary to treat the first several thousand barrels until only clean oil is being produced.

Early costs of completing wells averaged about $90,000 per well with a maximum of approximately $120,000. This has been reduced to about $75,000 per well, a figure which may be used for roughly calculating the total cost of most of the completions. All of the drilling is done by contract at an average cost of about $7.00 per foot. Up to the present time it is conservatively estimated that approximately $10,650,000 have been expended in development alone. It should be borne in mind that the drilling plan has been one well to each 40-acre unit, with the exception of 10 of the units upon which two wells have been drilled and one unit which has three producers. Under the usual plan of one well to each 10 acres the development expenditure would have been not less than $40,000,000 and with a town-lot feature, such as has been experienced in one of the present major pools, that figure might have been increased to several times this amount. It is estimated that not less than 50 outside locations will be drilled before the Hobbs structure is entirely defined and that the total expenditure for future development will not be less than $5,000,000. Total program including development and lease equipment is estimated at $22,000,000, not including the expense of completing any inside locations which possibly may be drilled in the future.

Derrick manufacturers have not profited greatly by the Hobbs development; 122-foot, 24-foot base, tubular steel derricks have been used almost exclusively, but few new derricks have been purchased, most of them having been transferred from West Texas. Only a relatively few wells have been equipped for pumping and, with the present restricted flow under proration, and the extremely low gas-oil ratios, it is likely that the flowing life of wells will be considerably above the average.

It may be safely said that the equipment and methods used in the pool rank high as compared with other areas. Only the most modern rotary equipment has been used and drillers are equipped with weight indicators and other scientific equipment which would enable them to drill at a profitable rate of speed and yet maintain a straight hole. Acid bottles have been largely used in determining horizontal deviation from vertical but several of the present drilling wells are equipped with mechanical surveying equipment.

Production and Producing Equipment

Production figures for the pool reveal little that might be of use in estimating monthly decline or ultimate per acre yield. From the date of completion of the discovery well, April 24, 1929, until April 19, 1930, when the Texas-New Mexico Railroad Company opened its line for traffic, the field had no outlet and then only such as could be moved by tank car shipment. No appreciable amount of oil moved from the field until May 8, 1930, when Humble Pipe Line Company completed its eight-inch line and started running oil to Wink, Texas. On July 10, 1930, Shell Pipe Line Company started running oil through its eight-inch line, which connects with the Texas Company's six-inch line at Eunice. The Texas Company's carrier is a six-inch line from Eunice to Jal and a 10-inch line from

Jal to Wink. Atlantic Pipe Line Company started running oil through its eight-inch line to Midland, Texas, on July 11, 1930. At this date the three lines had a total capacity of approximately 60,000 barrels daily, and in inaugurating the proration scheme which was effective July 10, 1930, Atlantic Pipe Line Company and Shell Pipe Line Company nominated 10,000 barrels each, while Humble Pipe Line Company provides 7500 barrels outlet. The balance of the 35,000-barrel allowable production is obtained through Gypsy Oil Company, The Texas Company and Tidal Refining Company having private market arrangements. Reference to cumulative production figures for the period July 10, 1930, the beginnning of proration, to December 1, 1930, forcefully demonstrates the restriction which has been placed on production over practically the entire period during which the pool has had an outlet.

Lease equipment and well hook-up vary widely. Connections are arranged so that wells may be produced through the tubing or through tubing and casing. A large number of wells are equipped with two separators, one set on the ground adjacent to the well and one elevated 10 to 15 feet above the ground. This plan is used to enable easy delivery of gas to the plants. Gypsy Oil Company, Midwest Refining Company and Continental Oil Company

(*Continued on page 89*)

Oil Analysis

Shell Petroleum Corporation—Wood River Refinery
Laboratory Report—July 8, 1930
No. R-2491

Shell Petroleum Company's McKinley 1,
Section 19-18s-38e

Top sand and lime.....4146 feet
Bottom .....4169 feet
Sample from tank under conditions of tank settling .....June 23, 1930

	Degrees
Gravity A. P. I. @ 60 F.	34.6
Water and sediment by centrifuge per cent by volume (ASTM D-96-28)	0.2
Water by volume (ASTM D-95-28)	00.2
Sulphur per cent by weight (ASTM D-129-27)	1.44
Color	Greenish black
Pour point degrees F. (ASTM D-27-28) below -25 deg.	
Saybolt Universal viscosity @ 30 degrees C (68 degrees F.)	45
Saybolt Universal viscosity @ 30 degrees C (86 degrees F.)	42
Saybolt Universal viscosity @ 50 degrees C (122 degrees F.)	38

Distillation yields:

	Temp. °F.	Per Cent	A.P.I. Gravity	Flash °F.	Fire °F.	Pour Point °F.	Say. Univ. Vis. 100°F.	
Gasoline	408	37.5	59.3	...	...	..	...	
37-40 distillate	500	11.6	38.2	175	195	..	..	
Residue	..	49.9	20.3	300	340	25	427	Sec.
Loss	..	1.0						
		100.0	Color of residue—Greenish-black.					

A. S. T. M. 10 per cent distillation on gasoline fraction below:

Doctor test on gasoline fraction-positive
Y. B. P. Degrees F.....104

10 per cent off @ 158° F.
20 " " " " 188° F.
30 " " " " 212° F.
40 " " " " 234° F.
50 " " " " 256° F.
60 " " " " 279° F.
70 " " " " 303° F.
80 " " " " 330° F.
90 " " " " 364° F.
E. P. .....432°
Recovery per cent....98.5
Residue 1.0
Loss 0.5
85 per cent R. P...172° F.

TABLE NO. 2
Gas-Oil Ratios*

Company—Lease Wells—	Average Daily Gas Flow	Average Daily Prod.	Average Oil-Gas Ratio
Prairie Oil & Gas Company—			
Selman 1	43,000	82	524
Crump 1, 2	95,000	143	665
Ohio Oil Company, Ind.—			
State 2, 3	607,000	583	1,042
State 1, 4	941,000	444	2,119
State 5	215,000	243	884
Gypsy Oil Company—			
Grimes 5, 6	774,000	502	1,542
Grimes 3	560,000	656	853
Grimes 2, 4	453,000	828	547
Grimes 1	203,000	472	430
Midwest Refining Company—			
State 8, 26, 33	1,036,000	979	1,058
State 3, 4	245,000	256	957
State 26	103,000	103	1,000
State 1, 8	145,000	220	659
State 1, 13, 24, 36	193,000	229	843
Byers 33	556,000	491	1,133
Capps 31	58,000	97	597
Terry 13	60,000	76	789
Terry 26	62,000	92	673
Leach 24	47,000	89	528
Ohio Oil Company—			
State 2	212,000	175	1,211
State 1	496,000	303	1,637
Humble Oil & Refining Company—			
Bowers 3, 4	105,000	856	122
Bowers 9, 10	615,000	931	660
Bowers 8	266,000	143	1,860
Bowers 1, 2, 5	252,000	625	403
The Texas Company—			
Selman 1	31,000	62	500
State "C" 1, 2	758,000	439	1,726
McKinley 1, 2, 3	553,000	748	739
Ohio Oil Company—			
State 3	250,000	243	1,028
Amerada Petroleum Corporation—			
McKinley 1, 2, 3, 4	867,000	1,402	618
State B 2, 3	383,000	660	580
State "B" 1, 4	561,000	612	917
Humble Oil & Refining Company—			
Grimes 1	306,000	491	623
Shell Petroleum Corporation—			
Thorp 1	55,000	106	519
Walker Oil Corporation—			
Terry 1, 2	258,000	499	517
Amerada Petroleum Corporation—			
State A 1, 2	417,000	759	549
Shell Petroleum Corporation—			
McKinley "A"	1,254,000	1,856	675
Getty Oil Company—			
McKinley	1,806,000	2,138	844
Texas Pacific Coal & Oil Company—			
State "G"	640,000	393	1,628
Empire Gas & Fuel Company—			
Hardin	589,000	578	1,019
Sun Oil Company—			
McKinley	576,000	798	721
Tidal Oil Company—			
Hardin	382,000	567	673
Continental—			
State "B"	172,000	728	236
State "A"	831,000	1,327	626
Empire Gas & Fuel Company—			
Fowler	444,000	588	755
Shell Petroleum Corporation—			
Grimes	428,000	753	568
Skelly Oil Corporation—			
Fowler	657,900	372	1,766
Tidal Oil Company—			
Grimes	272,000	631	431
The California Company—			
State	314,000	581	540
Gypsy Oil Company—			
Graham	156,000	219	712
Landreth Production Corporation—			
State "B"	550,000	392	1,403
Shell Petroleum Corporation—			
McKinley "B"	600,000	1,067	562
Prairie Oil & Gas Company—			
Grimes	182,000	356	511
Shell Petroleum Corporation—			
State "A"	480,000	692	693
The California Company—			
McKinley	153,000	376	406
Shell Petroleum Corporation—			
State "B"	71,000	278	255

Average Oil-Gas Ratio for field month of November 769.

* Prepared by the Hobbs Pool Executive Committee.

World Output Decline

By VALENTIN

VALENTIN R. GARFIAS
Manager, Foreign Oil Department, Henry L. Doherty & Company

THE world's petroleum production during 1930 totaled close to 1,403,500,000 barrels, showing a decline of about 81,000,000 from the previous year. Important developments during the year were the decline in the output of the fields in the United States in the face of very large potential supplies, the increase of Russian production in line with the Five-Year-Plan of expansion and the partial normalization of production in Venezuela through cooperative agreements between the leading operators.

As those vitally interested in the industry everywhere, are becoming incrasingly aware of the urgent need of closer cooperation, their future efforts toward conservation and rational legislation should become more effective and crystalize into concerted action instead of being largely dissipated, as at present, into empirical discussions. The oil industry in unison with business at large, is now going through a period of forceful readjustment which it is confidently believed will bring about stable conditions and more profitable operations.

The present overproduction resulting in flooded markets has unfavorably reacted on the marine transportation of oil and its products, the tanker rates at the end of 1930 being about one-third of those prevailing at the beginning of the year. The rates from Venezuela to Atlantic seaboard, which were about 41 cents per barrel in February 1930, declined to 14 cents in December.

The world's production in 1931 is estimated at 1,360,000,000 barrels, or 43,500,000 less than in 1930, the reduction being accounted largely by the expected decline in production in the United States in line with the conservation measures now being more firmly established. It is also expected that the Venezuela output will likewise decline for similar reasons, and that the expected increase in the Russian production will place this country as second in rank ahead of Venezuela. Should regulation of production in the United States and Venezuela fulfill present expectations, it would not be improbable that the total of the world in 1931 would be further reduced to figures of the order of 1,300,000,000 barrels.

United States

Production in 1930 aggregated approximately the same as in 1928 or close to 900,000,000 barrels, showing a decline of about 107,000,000 from 1929. The significance of this decline may be better understood if one realizes that it is equivalent to the combined 1930 productions of Persia, Mexico and Colombia. This was made possible because the output of the American fields, greatly in excess of present yield, was partially regulated more nearly to harmonize with actual demand, an effort which is expected will be increasingly successful in the future.

Estimates of production during 1931 of necessity are conjectural, depending as they do largely on questions of legislation and the degree of cooperation between landowners, producers, refiners and marketers toward the stabilization of the industry. Realizing, however, that concerted action toward rational regulation is a matter of unavoidable urgency, it is believed that the production in 1931 will be maintained at a lower rate than in 1930 and should, therefore, aggregate between 800,000,000 and 850,000,000 barrels.

Russia

In harmony with the Five-Year-Plan of commercial and industrial expansion now being developed in Soviet Russia, the 1930 production reached 126,000,000 barrels showing an increase of 26,000,000 over the previous year.

The completion during 1930 of the pipe line from the Caspian fields to Batum was of decided advantage to the industry, substituting for 530 miles of slow railroad transportation a quicker and cheaper method. The capacity of this line is estimated at 30,000 barrels daily.

It is anticipated that the present increase in production will continue and that during 1931 the output will aggregate between 135,000,000 and 140,000,000 barrels and that as a result Russia will regain the second position as an oil producer.

Venezuela

The output of Venezuela was close to 139,000,000 barrels showing a nominal increase over the previous year notwithstanding a much larger potential production. This was made possible by the concerted action among the important producers in regulating the output. It is planned to extend this program of conservation, and should it continue, it is estimated that the production in 1931 will aggregate between 125,000,000 and 135,000,000 barrels. Venezuela's regulated production coming when the Russian output is being accelerated should place Russia ahead of Venezuela in 1931 as the second producing country.

Persia

Production in Persia, carefully regulated under unit control and operation, was 44,000,000 barrels in 1930, showing

Will Show Small In 1931

R. GARFIAS

Mr. Garfias' estimates of crude oil production for next year point to the continuation of curtailment throughout most of the major producing areas of the world. His estimate of United States production indicates a daily average for 1931 of 2,328,000 barrels, or about 125,000 barrels a day more than is being produced at the present time. Russia will undoubtedly produce more oil next year than was produced in that country this year. Venezuela will probably be held in check next year through measures of curtailment, allowing Russia to temporarily assume the rank of the second largest oil-producing country. Developments in Persia, Roumania, Peru, Trinidad, Argentina, Canada, Sakhalin and Germany will undoubtedly contribute to increased output of crude in those countries. It is believed, however, that Roumania may yet be placed on curtailment, while the publicity given to German oil deposits may possibly create a burst of development that could easily boost the production of that country to a greater extent than indicated by the accompanying estimate.

a moderate increase over 1929. The production in 1931 is estimated to reach a total of 46,000,000 barrels.

Roumania

Roumanian fields produced in 1930 close to 40,000,000 barrels or an increase of 5,300,000 over 1929. The 1931 production is estimated close to 42,000,000 barrels placing Roumania in fifth position, ahead of Mexico.

Dutch East Indies

It is difficult to ascertain the exact status of production in Dutch East Indies but the figures so far available indicate a yield of 36,000,000 as compared to 38,000,000 for 1929. The estimates for 1931 are tentatively placed likewise at 36,000,000 barrels.

Mexico

Production aggregated in 1930, 40,000,000 or a decline of about 10 per cent from the previous year. It is estimated that a corresponding decline in 1931 will bring the output for that year close to 35,000,000 barrels.

An important development during 1930 was the beginning of the construction of a pipe line from the oil fields near Tuxpam, near sea level, to Mexico City, at an elevation of 7500 feet. This line and its terminal refinery in Mexico City should be finished early in 1932 and materially change the transportation and marketing picture of crude and refined products in the Republic.

WORLD PETROLEUM PRODUCTION
(In thousands of barrels)

	1931	1930	1929
1. United States	850,000	900,000	1,007,323
2. Russia	140,000	126,000	99,507
3. Venezuela	130,000	139,000	137,472
4. Persia	46,000	44,000	42,145
5. Roumania	42,000	40,000	34,689
6. Dutch East Indies	36,000	36,000	38,072
7. Mexico	35,000	40,000	44,688
8. Colombia	20,000	20,000	20,385
9. Peru	13,000	12,000	13,422
10. Trinidad	10,500	9,500	8,716
11. Argentina	9,600	9,400	9,391
12. India	7,500	7,500	8,366
13. Sarawak	5,000	5,000	5,279
14. Poland	4,800	4,800	4,988
15. Japan	2,000	2,000	2,010
16. Egypt	1,800	1,800	1,864
17. Ecuador	1,500	1,500	1,760
18. Canada	1,400	1,300	1,121
19. Sakhalin	1,400	1,300	1,076
20. Germany	1,200	1,100	711
21. Iraq			798
22. France			497
23. Czechoslovakia	1,300	1,300	93
24. Italy			44
25. Others			34
	1,360,000	1,403,500	1,484,451

Colombia

Production continues at a uniform rate equivalent to the capacity of the pipe line system from the fields to tidewater or close to 20,000,000 barrels a year; this should likewise be the production for 1931.

Peru

Possibly due to the revolutionary disturbances, the output of the Peruvian fields showed a decline from 13,000,300 in 1929 to 12,000,000 in 1930; it is expected, however, that in 1931 the production will again aggregate close to 13,000,000 barrels.

Trinidad

The production of Trinidad in 1930 was close to 9,500,000 barrels showing a 10 per cent increase over the previous year, the data now available indicating that the output in 1931 will be about 10,500,000 barrels.

The production of other countries reflected little change during the year; a gradual increase is noted in Argentina, Canada, Sarawak and Germany and moderate declines in India, Sakhalin, Egypt, Ecuador and Poland. No important changes are expected in the production of these countries in 1931.

The accompanying table shows the world's production for 1929 as given by the United States Bureau of Mines, the 1930 figures as published by periodicals and secured from other sources and the author's estimates for 1931.

Mexico's Future Petroleum Possibilities

By JACK LOGAN
Staff Representative

Guerrero Dome Test is Mexico's Deepest

IN drilling the deep test, Guerrero No. 3, on Guerrero dome, Northern Tamaulipas, Mexico, Compania Petroleo Tamaulipas, S. A., has established various records for Mexico. A considerable period before reaching its present depth the well had gained the distinction of being the deepest test ever drilled in the republic. It has in it the longest string of 10-inch casing ever set in a well in Mexico. It has penetrated the greatest thickness of one formation, the Midway, ever found in the country. It is no doubt one of the most expensive wells ever drilled in Mexico. Before reaching 7000 feet it had already cost considerably over $175,000 (in terms of American money), and before completion the cost will probably exceed $200,000.

Still going ahead after having been drilled below 7200 feet under exceptional circumstances and without finding any showings of oil or gas, the test represents a high stage of development in the science and mechanics of deep well drilling and at the same time it demonstrates the methodical thoroughness, determination, and perseverance demanded by the strict and complete application of scientific methods in modern petroleum exploration.

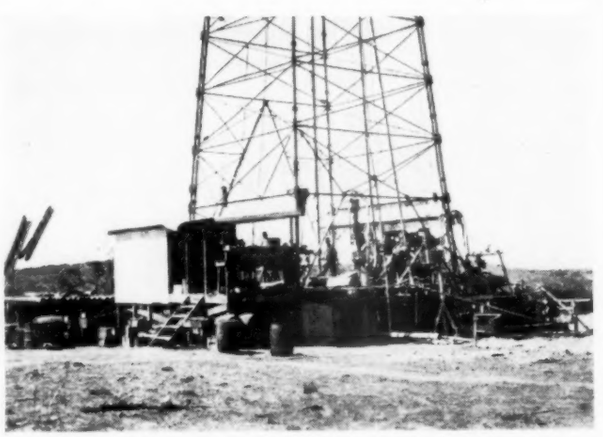
A less experienced or less fortunate operator might have been forced to abandon the test long before reaching the present depth. A less determined operator or one with insufficient capital might have given up hope long ago, only to have learned a little about the shallower formations, with a duplication of his effort necessary for complete investigation in a subsequent deep test. Compania Petrolera Tamaulipas, however, has plugged away steadily and carefully, and in the one deep test apparently will do much toward proving or disproving the petroleum possibilities of the structure.

Guerrero dome or anticline is about mid-way between the towns of Guerrero, Tamaulipas, and Paras, Nuevo Leon, lying for the most part, however, in Tamaulipas. The structure is shown on the special insert map in THE OIL WEEKLY of December 5, 1930, and some general information about it is included in that issue. The accompanying map in this issue shows the surface land ownership. The deep test, located on the southern portion of the structure, is approximately 18 miles south of Zapata, Texas, on an air line and 24 miles southwest of the Charco Redondo oil field, Zapata County, Texas.

Compania Petrolera Tamaulipas, which is drilling Guerrero No. 3, has charge of the development work on concessions covering the whole Guerrero structure. The company is closely affiliated with Humble Oil & Refining Company, the concessions covering the structure being controlled jointly by the Humble interests and the Empire (Henry L. Doherty) interests. Compania Petrolera Tamaulipas maintains headquarters in Laredo, Texas, and in Nuevo Laredo, Tamaulipas. Olin G. Bell, with offices in Laredo, is general manager of the company.

First Test Drilled

Although it is designated as Guerrero No. 3, the present deep test is the first to be drilled by Compania Petrolera Tamaulipas on Guerrero anticline. In fact it is the only oil or gas test ever drilled there. The explanation for the number is the fact that the company obtained permits for drilling two other locations before deciding to change to the present one. It was not possible, however, to revoke the previous permits, and therefore a new number was necessary for the third permit. The time limit on the permit for Guerrero No. 1 has expired and the well can never be drilled, while the company will probably never drill No. 2 either.



Compania Petrolera Tamaulipas, S. A. Guerrero 3

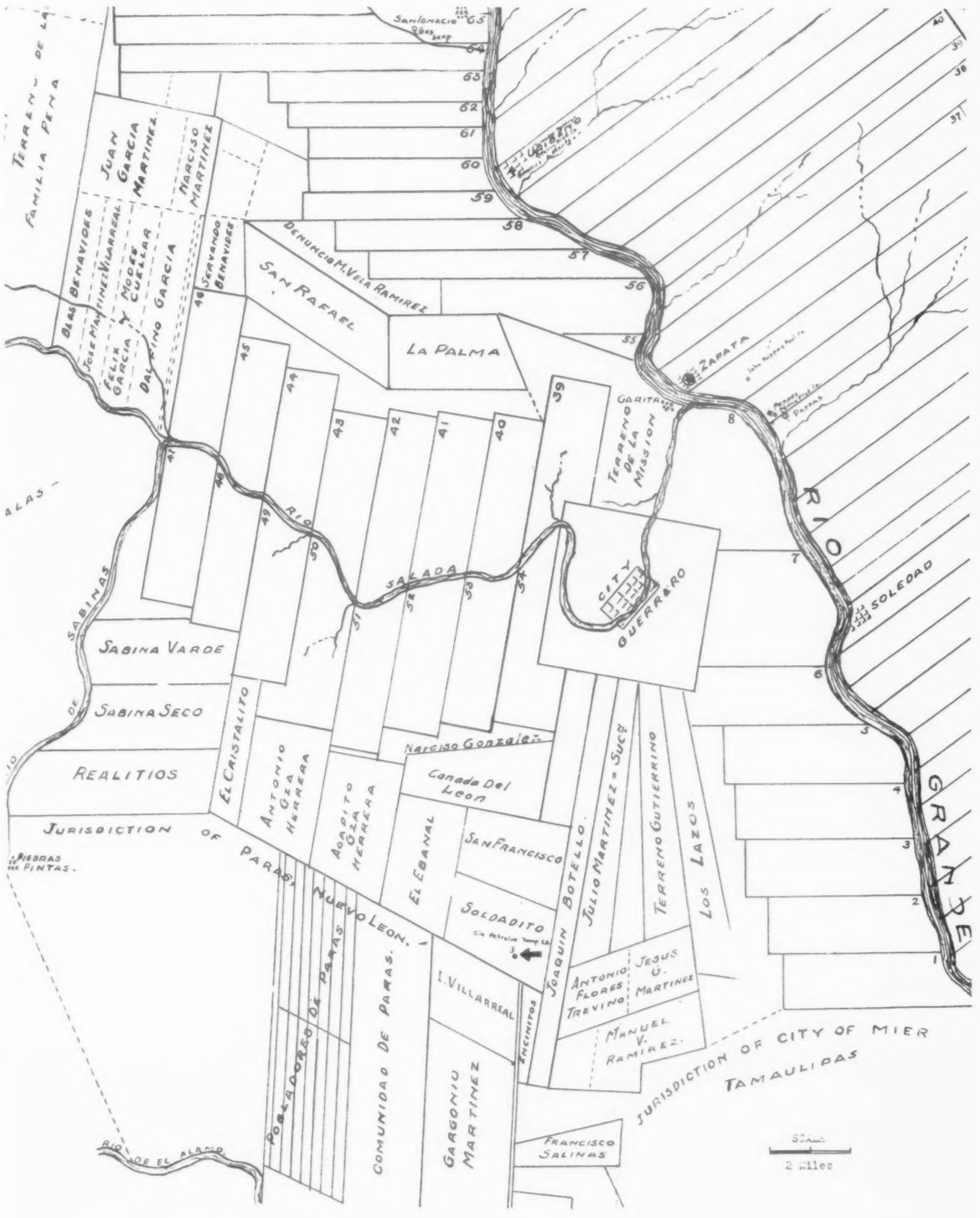
Location for Guerrero 3 was made June 15, 1929, and the well was spudded July 15, 1929. On December 22, 1930, it was drilling Midway formation at 7223 feet. In spite of the great depth, it had drilled by that date in only two formations. It started in upper Wilcox sand and drilled through that formation, hitting the top of the Midway (lowermost Eocene) formation at 2287 feet.

The well has been drilled entirely by rotary equipment. All of the Wil-

PORTION OF NORTHERN MEXICO

Showing Location of

Compania Petrolera Tamaulipas' Guerrero 3
Deep Test Drilling on Guerrero Dome



Crossing Rio Salado

cox formation penetrated represented hard drilling, being composed of sandstones, sands and shales. The Midway, however, has not been as hard to drill. It is principally shale and sandy shale with a few sands. There has been enough sand in the shale to cut drilling bits badly.

Papagayos shales of the Upper Cretaceous are to be expected next below the Midway. The Papagayos formation, according to measured sections near Guerrero dome, would probably have a thickness of 3000 feet. Below it, normally, would come the San Felipe formation, at the bottom of the Upper Cretaceous; then the Tamasopa, comprising all the Lower Cretaceous.

Blazing the trail for heavy equipment

Start With 20-Inch Hole

Guerrero 3 started with a 20-inch hole, and 15½-inch casing was set at 449 feet. The only other casing in the hole is 10-inch, which was cemented at 3404 feet. The remaining distance to the bottom, now nearly 4000 feet, is open hole, 9⅞ inch in diameter. Incidentally, when it was decided to set the long string of 10-inch casing it was necessary, as in all other instances of setting casing in Mexico, to obtain a permit from the government for doing so; and it developed that there was no precedent in the republic for setting so much 10-inch casing. As a consequence some delay was experienced in obtaining the permit, with due explanation and reasons required of the owners of the well.

Fuel oil for drilling the well has been hauled to the location by trucks from the Escobas (Muckelroy) field, Zapata County, Texas. Four trucks have been in use in hauling in the oil. They reach the location by way of Zapata, Texas, crossing the Rio Grande there on a suspension bridge, and thence through Guerrero, conveying the fuel a total of over 40 miles. Water is piped to the location from the Rio Salado, a distance of 17½ kilometers.

Equipment used in drilling Guerrero 3 includes a 122-foot steel derrick; 23-inch rotary; two 90-horsepower boilers; a 72-inch traveling block; heavy crown block and draw works; a twin-cylinder steam engine; a 12 by 6 by 16 slush pump and also an auxiliary pump. Various makes of drilling bits have been used. Rock bits were used to 2800 feet, but since then there has been a little too much shale for rock bits to work well.

Although it has been over 1½ years since the well was spudded, there have been several shut-downs in the meantime, some for as long as six weeks.

Trucks for All Transportation

Like the fuel oil, all material and equipment required on the well have been hauled in by truck from Texas by way of Zapata. There was already a fair dry weather road from Zapata to Guerrero, a distance of about eight miles. But from Guerrero to the well is an additional 15 miles over the route followed by the trucks, and over that 15-mile stretch there was originally a very poor road, but it has been improved somewhat, with Compania Petrolera Tamaulipas contributing toward the improvement. The transportation of materials to the well is slow, however, at best, and it is extremely difficult if not impossible during extended rainy weather. The nearest supply houses are at Mirando City, Texas, 102 miles from the drilling site, and Laredo is 74 miles away by automobile or truck.

A soft spot nearly upsets the heavy load

Both Olin G. Bell, general manager of Compania Petrolera Tamaulipas, and Homer Harris, tool pusher, have their headquarters in Laredo. But others taking part in the drilling of the deep test are living near the drilling site. There is a camp at the rig for the American workers, and the Mexican employes have tents in which they live. Food

(*Continued on page 87*)

Checking equipment through the customs across the Rio Grande

Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

Crude Situation Outside California in Balance

A PRECIPITOUS decline last week of 75,000 barrels in daily average crude oil production in the United States brought the national production curve to a point that is 41,000 barrels a day below the prescribed limit for the industry. While there are still a number of unfavorable factors on the horizon, it is apparent that the crude situation outside of California is practically in balance. In fact, Oklahoma production has been reduced to a point where it is nearly 77,000 barrels a day below the limit set for the month of December, while Texas production is now also below the prescribed limit to the extent of 20,000 barrels a day. For the United States as a whole, crude production appears to be in balance with current demand, but analysis of the situation by states shows that California continues to exert an unfavorable influence upon the general situation. Last week's decline in California, amounting to nearly 37,000 barrels a day, was a favorable development, however, that acted as a stabilizing factor in an otherwise weak crude market. The fact remains, though, that stocks of crude and products in California have shown a gain this year of nearly 4,500,000 barrels, while stocks in other sections of the country have declined.

The decline in production last week to a new low figure of 2,126,750 barrels represents a total decline from the peak of August, 1929, of 846,000 barrels daily. The states contributing to the decline of last week were: Texas, 43,050 barrels; Oklahoma, 4,250 barrels; California, 36,600 barrels; Louisiana, 1,450 barrels; Arkansas, 400 barrels; Eastern States, 2,650 barrels. Kansas and the Rocky Mountain States reported increased production last week of 5500 and 1750 barrels, respectively. Actual production compared with state allowables last week shows a combined excess for California, Kansas and Louisiana of more than 79,000 barrels a day, while all other areas show an indicated deficit of about 120,000 barrels daily. The net result stands at about 41,000 barrels daily below the national economic limit of 2,168,014 barrels daily.

Texas Reduction Prompt

As anticipated, Texas operators succeeded in quickly bringing their production down to the prescribed limit; in fact, the result of last week's efforts brought the state total down to a point where actual production is now more than 20,000 barrels below the limit of 680,000 barrels. Oklahoma operators are still concerned with the situation that confronts them with the turn of the year and are exerting every effort to keep production well below the limit previously prescribed. Last week's further slight decline brought Oklahoma's production down to 458,000 barrels, or nearly 77,000 barrels below the limit set for December. It is practically certain now that the limit for Oklahoma will be set at about the present rate of production for the early part of 1931. When that is done, the effect will be to create an excess for the United States of about 35,000 barrels a day. It is apparent from these figures that California must determine to bring about a further reduction in crude output of at least 35,000 barrels, in order to effect a balance in the national crude situation.

Figures prepared by the Pacific Coast office of the American Petroleum Institute show that California crude production was up about 15,000 barrels a day during November, this increase being practically all charged to the Playa del Rey field. This field showed a daily average production during November of 40,347 barrels, against 25,330 barrels in October, or a gain for the month of approximately 15,000 barrels daily. Total stocks of crude and all products in the Pacific Coast territory increased during November 810,285 barrels. The total stocks at the end of that month were 180,310,770 barrels. The total stock increase for 1930, up to November 30, was 4,452,963 barrels. Refinable crude stocks during November showed a gain of 30,445 barrels, while gasoline stocks increased 580,677 barrels. This report also shows that while the number of wells drilled have averaged about the same as last year, initial oil production has practically doubled.

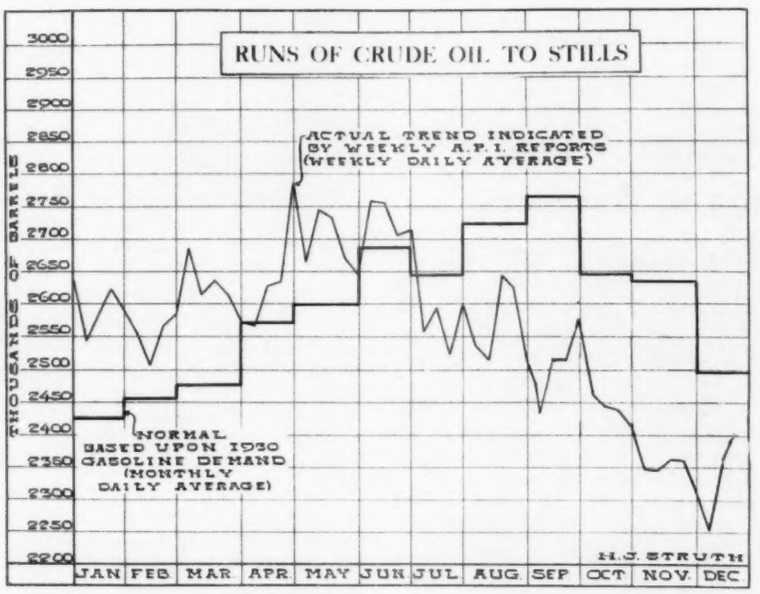
Following are the more important changes in crude production last week, as indicated from figures received from the American Petroleum Institute:

		Barrels
Carson County	Decrease	1,800
Gray County	Decrease	11,850
Hutchinson County	Decrease	5,200
North Young County	Decrease	4,000
Crane-Upton County	Decrease	1,350
Reagan County	Decrease	1,500
Winkler County	Decrease	1,650
Yates	Decrease	1,750
Darst Creek	Decrease	2,300
Barbers Hill	Decrease	1,200
Carr City	Decrease	2,550
Oklahoma City	Increase	6,700
South Earlsboro	Decrease	1,700
West Asher	Decrease	3,600
Elwood	Decrease	6,200
Huntington Beach	Decrease	3,600
Long Beach	Decrease	2,000
Midway-Sunset	Decrease	1,500
Playa del Rey	Decrease	1,000
Santa Fe Springs	Decrease	16,200
Hobbs High	Increase	1,950
Eastern States	Decrease	2,650

Refiners Attempt to Wipe Out Excess Runs

REFINERS apparently made a concerted effort last week to wipe out the excessive still runs of the past few weeks at a single stroke, since reports from the American Petroleum Institute show that United States refinery runs were reduced to the extent of about 130,000 barrels a day, on a Bureau of Mines basis, during the past week. Runs reported to the American Petroleum Institute aggregated 15,452,000 barrels, or a daily average of 2,207,000 barrels. On a Bureau of Mines basis, this figure represents a daily average of about

MARKET SECTION



2,273,000 barrels, whereas the daily average for the preceding week was 2,403,000 barrels. This has effectively offset the cumulative gain in refinery runs during the preceding two weeks of about 150,000 barrels.

Stocks of gasoline apparently increased last week to the extent of about 767,000 barrels. According to returns made to the American Petroleum Institute, refinery gasoline stocks for the week ending December 27 aggregated 39,388,000 barrels. Stocks reported for the preceding week were in error, according to the Institute, due to an error in reporting California gasoline stocks. Thus, instead of the total for that week amounting to 39,016,000 barrels, it should have been reported as 38,621,000 barrels, a difference of 395,000 barrels. Nevertheless, the corrected figure shows the effect of increasing still runs during the preceding two weeks, and it is evident that last week's decline will have a material effect upon the gasoline stock situation, provided that refineries are operated at or below the reported rate throughout the next four to six weeks.

Basically the oil industry in California has been slow to reflect both reduction in the allowable and the actual drop in production. This was expected for several reasons. Consumption is now at the lowest and sentiment has been slow to take a more optimistic form.

The sharp drop in production to around 550,000 barrels

CRUDE RUNS TO STILLS, GASOLINE STOCKS AND GAS AND FUEL OIL STOCKS, WEEK ENDING DECEMBER 20, 1930

(Figures in barrels of 42 gallons)

District—	Potential Daily Capacity	Potential Capacity Reporting Total	Potential Capacity Reporting Per Cent	Crude Runs to Stills Total	Crude Runs to Stills Daily Average	Crude Runs to Stills Per Cent Operated	Gasoline Stocks	Gas & Fuel Oil Stocks
East Coast	612,700	612,700	100.0	3,281,000	468,700	76.5	5,471,000	10,076,000
Appalachian	141,300	132,500	93.8	557,000	79,600	60.1	947,000	964,000
Indiana, Illinois, Kentucky	390,800	381,000	97.5	1,886,000	269,400	70.7	4,336,000	3,598,000
Oklahoma, Kansas, Missouri	461,100	412,200	89.4	1,717,000	245,300	59.5	2,628,000	4,408,000
Texas	809,000	743,500	91.9	3,593,000	513,300	69.0	6,749,000	10,830,000
Louisiana-Arkansas	266,600	262,000	98.3	1,130,000	161,400	61.6	1,567,000	2,164,000
Rocky Mountain	150,100	139,700	93.1	287,000	41,000	29.3	1,603,000	993,000
California	898,500	887,600	98.8	3,881,000	554,400	62.5	15,715,000	103,984,000
Total Week December 20	3,730,100	3,571,200	95.7	16,332,000	2,333,100	65.3	39,016,000	137,017,000
Total Week December 13	3,730,100	3,571,200	95.7	15,996,000	2,285,100	64.0	37,680,000	137,881,000
The total U. S. figures for last year, shown immediately below, are not comparable with this week's totals because of difference in percentage capacity reporting.								
Total December 21, 1929	3,678,700	3,507,400	95.3	18,074,000	2,582,000	73.6	40,451,000	*142,425,000
The Texas and Louisiana Gulf Coastal Figures Shown Below are Included above in the Totals of Their Respective Districts.								
Texas Gulf Coast	529,500	529,500	100.0	2,621,000	374,400	70.7	5,357,000	8,182,000
Louisiana Gulf Coast	147,500	147,500	100.0	782,000	111,700	75.7	1,298,000	1,241,000

* Final revised.

MARKET SECTION

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

	Necessary Daily Average 4th Quarter 1930	Quota Limit Prescribed to Correct Previous Excesses	Actual Daily Average Week Ending December 27, 1930	Excess
Arkansas	59,518	59,518	50,950	—8,568
California	654,034	500,000	565,800	65,800
Kansas	115,407	105,554	108,800	3,246
Louisiana	57,704	57,704	68,150	10,446
Oklahoma	653,252	535,000	458,100	—76,900
Texas	767,167	680,238	660,000	—20,238
Balance of U. S.	230,000	230,000	214,950	—15,050
Total	2,537,082	2,168,014	2,126,750	—41,264

was enough to turn the tide definitely upward during ordinary times, but the prolonged depression has more or less dulled the minds of the average oil man. The output will not reach the 500,000 barrel level for some time, and may not drop much below the present total unless a better spirit of co-operation is manifested by smaller companies.

The major companies have shut in additional production, accounting chiefly for the large drop in the output for the week.

The gasoline market remains unchanged. The smaller output of crude having had little immediate effect on spot gasoline. Playa del Rey crude is still floating around in excess quantities and much of the cheap gasoline may be traced to this source.

Drilling Permits Show Effect of Curtailment

Permits to drill oil and gas wells in the leading producing states during the past year reflected the program of curtailment to the extent that there was a decline in their number of about 1645, compared with the total for 1929. The table showing this data in this section of THE OIL WEEKLY indicates that the total number of permits granted during 1930, in the several producing states for which this information has been made available, amounted to 12,804, against 15,647 during the year 1929. Louisiana was the only state among those listed that showed a gain in the number of permits granted, while Arkansas, California, Kansas, Oklahoma, and Texas showed declines. The greatest decrease was recorded in Texas where the number of permits was 1645 below the number issued last year. Oklahoma also recorded a sizeable decline in permits which amounted to about 748 during the year.

Posts Flat Rate of 67 Cents for Oklahoma Crude

Tulsa.—Champlin Oil and Refining Company of Enid posted flat price of 67 cents per barrel for Oklahoma crude, effective at 7:00 a. m., Monday, December 29, 1930. Eason Oil Company, which has closely followed all other cuts by Champlin Oil and Refining Company, is expected to make a similar posting December 30, 1930.

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

(Barrels of 42 gallons)

	Week Ended December 20	Week Ended December 13
AT ATLANTIC COAST PORTS—		
Baltimore	.....	.....
Boston	92,000	95,000
New York	866,000	945,000
Philadelphia	207,000	222,000
Others	65,000	412,000
Total	1,230,000	1,674,000
Daily Average	175,714	239,143
AT GULF COAST PORTS—		
Galveston District	.....	21,000
New Orleans and Baton Rouge	138,000	67,000
Port Arthur and Sabine District	.....	"A" 65,000
Tampa	.....	9,000
Total	138,000	162,000
Daily Average	19,714	23,143
AT ALL UNITED STATES PORTS—		
Total	1,368,000	1,836,000
Daily Average	195,428	262,286
Daily Average Four Weeks Ended	259,750	284,286
Distribution of Total Imports Is as Follows:		
Crude	869,000	"A"1,166,000
Gasoline	193,000	163,000
Kerosene	.....	36,000
Gas Oil	19,000	36,000
Fuel Oil	287,000	435,000
Total	1,368,000	1,836,000

"A"—Revised.

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS

(Barrels of 42 gallons)

	Week Ended December 20	Week Ended December 13
AT ATLANTIC COAST PORTS—		
Baltimore	.....	74,000
Boston	.....	.....
New York	172,000	78,000
Philadelphia	104,000	196,000
Others	48,000	.....
Total	324,000	348,000
Daily Average	46,286	49,714
AT GULF COAST PORTS—		
Total	.....	"A" 72,000
Daily Average	.....	10,286
AT ATLANTIC AND GULF COAST PORTS—		
Total	324,000	420,000
Daily Average	46,286	60,000
Daily Average Four Weeks Ended	58,929	74,214
Distribution of Total California Oil Receipts Is as Follows:		
Gasoline	104,000	"A" 420,000
Gas Oil	78,000	.....
Fuel Oil	142,000	.....
Total	324,000	420,000

"A"—Revised.

MARKET SECTION

United States Daily Average Production

1930	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
January	671,050	111,700	672,650	178,300	37,650	58,500	142,250	73,850	688,850	2,634,800	81,574,650
February	631,900	111,400	654,600	199,950	39,450	58,400	135,050	74,850	746,550	2,652,150	74,280,200
March	622,650	115,500	644,400	206,000	41,600	58,600	132,700	73,600	649,000	2,544,050	78,865,400
April	657,050	122,200	640,950	206,800	42,100	57,800	138,700	75,950	625,700	2,576,250	77,018,100
May	663,300	131,000	662,350	203,900	39,900	53,800	137,150	82,500	623,700	2,597,700	80,529,600
June	665,550	133,600	668,300	210,500	40,300	56,900	135,750	84,600	598,000	2,593,500	77,806,900
July	594,750	121,600	652,350	209,400	40,550	55,400	137,200	98,350	610,450	2,520,050	78,121,200
August	558,850	115,650	646,400	206,600	41,500	55,100	128,550	106,000	611,250	2,470,900	76,597,600
September	558,900	116,550	606,550	200,750	40,150	53,550	121,400	110,650	604,900	2,413,400	72,402,205
October	542,100	114,850	609,500	194,850	41,500	52,800	121,750	104,000	590,800	2,372,150	73,536,350
November	491,550	111,400	579,350	190,100	44,050	52,000	116,400	101,950	601,200	2,288,000	68,639,150
December 6	451,900	105,100	571,950	190,050	44,150	51,400	112,700	101,600	600,400	2,229,250	15,604,750
December 13	469,650	103,450	543,550	192,700	43,700	51,450	115,300	101,350	611,700	2,232,850	15,629,950
December 20	462,350	103,300	539,750	190,150	43,050	51,350	111,450	98,400	602,400	2,202,200	15,415,400
December 27	458,100	108,800	500,100	186,050	42,000	50,950	108,800	100,150	565,800	2,126,750	14,887,250
Increase	.....	5,500	.....	.....	.....	.....	.....	1,750	.....	.....	.....
Decrease	4,250	.....	39,650	4,100	1,050	400	2,650	.....	36,600	75,450	528,150

TEXAS
(Outside Gulf Coast)

PANHANDLE DISTRICT

	Dec. 27	Dec. 20
Carson County	4,100	5,900
Gray County	44,850	56,700
Hutchinson County	7,900	13,100
Wheeler County	300	600
Others	100	200
Total	57,250	76,500

NORTH TEXAS

Archer County	13,000	13,000
Burkburnett	6,400	6,400
Electra	8,700	8,700
Iowa Park-KMA	3,800	3,800
Montague and Cooke Cos.	6,300	6,200
Wilbarger	12,750	12,750
North Young County	5,500	9,500
Others	1,700	1,700
Total	58,150	62,050

WEST CENTRAL TEXAS

Brown County	4,300	4,500
Callahan County	2,800	2,800
Coleman County	1,800	1,900
Eastland-Desdemona	4,100	4,200
Jack County	1,600	1,650
Palo Pinto County	400	400
Shackleford County	4,200	4,400
Stephens County	4,400	4,500
Throckmorton County	650	650
South Young County	2,550	2,700
Others	2,100	2,100
Total	28,900	29,800

WEST TEXAS

Crane-Upton Counties	31,850	33,200
Crockett County	1,800	1,950
Ector	7,250	7,000
Howard County	17,750	17,800
Jones County	1,150	1,200
Mitchell-Scurry Cos.	2,050	2,100
Pecos County	3,900	3,850
Reagan County	21,400	22,900
Winkler County	54,650	56,300
Yates	91,100	92,850
Others	6,250	6,350
Total	239,150	245,500

EAST CENTRAL TEXAS

Boggy Creek	2,500	2,150
Corsicana-Powell	5,000	5,000
Currie	300	300
Joiner District	300	1,600
Mexia	3,850	3,800
Nigger Creek	200	200
Richland	150	150
Van Zandt	27,600	27,300
Wortham	600	600
Others	50	50
Total	40,550	41,150

SOUTHWEST TEXAS

Chapman-Abbott	5,350	5,550
Dale	250	250
Darst Creek	34,550	36,850
Laredo District	14,400	14,550
Luling	9,800	9,850
Lytton Springs	700	750
Salt Flat	15,100	15,000
Somerset	1,300	1,300
Others	650	650
Total	82,100	84,750
T'tl Tex. (outside Gulf Coast)	500,100	539,750

TEXAS GULF COAST

Barbers Hill	22,600	23,800
Batson	1,000	1,000
Big Creek	3,100	3,200
Blue Ridge	1,600	1,600
Boling	900	850
Damon Mound	650	650
Esperson	2,500	2,800
Fannett	500	500
Goose Creek	4,250	4,300
Hankamer	2,100	2,200
Hull	7,300	7,550
Humble	12,050	12,750
North Dayton	1,000	900
Orange	2,200	2,050
Orchard	1,900	1,900
Pettus	8,000	7,700
Pierce Junction	10,400	10,000
Port Neches	1,400	1,300
Raccoon Bend	8,400	9,100
Refugio	29,600	29,250
Saratoga	1,150	1,150
Somerville	1,200	1,400
Sour Lake	1,900	1,900
South Liberty	2,700	1,750
Spindle Top	13,200	14,000
Sugar Land	11,200	11,700
West Columbia	4,700	4,700
Others	2,400	2,300
Total	159,900	163,300
Texas Total	660,000	703,050

OKLAHOMA

Allen	12,800	12,600
Asher	800	800
Blackwell	2,200	2,200
Bowlegs	13,400	13,900
Braman	1,800	1,800
Bristow Slick	10,550	10,500
Burbank	13,200	13,300
Carr City	10,700	13,250
Cromwell	4,200	4,250
Cushing	11,950	11,900
Davenport	900	900
Duncan District	6,900	6,900
Earlsboro	18,450	18,150
East Earlsboro	17,250	17,400
East Little River	10,600	10,750
East Seminole	1,850	1,800
Fox	850	850
Garber	4,200	4,200
Graham	2,150	2,100
Healdton	9,100	9,200
Hewitt	5,200	5,250
Hubbard	700	750
Konowa	14,100	14,500
Little River	23,050	23,100
Logan County	3,150	3,200
Maud	2,850	3,550
Mission	6,900	7,100
North Okmulgee	7,950	7,950
Oklahoma City	87,250	80,550
Osage (cutside Burbank)	22,500	22,950
Papoose	2,100	2,100
Pearson	500	500
St. Louis	22,050	22,400
Sasakwa	4,200	4,250
Scholem Alechem	10,550	10,500
Searight	5,350	5,700
Seminole	13,950	13,850
South Earlsboro	7,600	9,300
South Okmulgee	4,500	5,100
Thomas	400	400
Tonkawa	4,250	4,250
West Asher	7,300	10,900
Wewoka	4,300	4,100
Yale Jennings	5,450	5,250
Others	38,100	38,100
Total	458,100	462,350

CALIFORNIA

Dominguez	9,800	9,800
Elwood-Goleta	29,800	36,000
Huntington Beach	24,700	28,300
Inglewood	15,000	15,000
Kettleman Hills	22,600	22,800
Long Beach	97,000	99,000
Midway-Sunset	57,000	58,500
Playa del Rey	44,400	45,400
Santa Fe Springs	77,800	94,000
Seal Beach	17,300	17,600
Ventura Avenue	45,400	46,000
Others	125,000	130,000
Total	565,800	602,400

KANSAS

Augusta-Fox Bush	3,050	2,500
Churchill	3,450	2,850
Eldorado-Towanda	13,200	12,700
Florence-Covert	800	700
Greenwood County	16,150	15,800
Oxford	2,500	2,100
Peabody-Ebling	2,400	2,100
Rainbow Bend	1,100	1,000
Russell	3,100	2,750
Sedgwick	21,450	22,100
Voshell	12,600	12,700
Others	29,000	26,000
Total	108,800	103,300

NORTH LOUISIANA

	Dec. 27	Dec. 20
Caddo Heavy	2,750	2,800
Caddo Light	8,150	8,450
Carterville	1,750	1,900
Cotton Valley	1,850	1,850
DeSoto-Red River	2,750	2,800
Haynesville	5,200	5,400
Holly	1,000	1,050
Homer	3,200	3,300
Urania	5,050	5,050
Zwolle	8,800	8,950
Others	1,500	1,500
Total North Louisiana	42,000	43,050

LOUISIANA GULF COAST

Bayou Boullion	100	100
East Hackberry	3,000	3,100
Edgerly	350	400
Evangeline	1,800	1,900
Hackberry	900	900
Lake Barre	1,800	2,000
Lockport	4,450	4,250
Port Barre	1,800	2,050
Sorrento	50	50
Sulphur Dome	2,600	2,800
Sweetlake	1,150	1,150
Vinton	5,100	5,050
White Castle	1,000	1,000
Others	2,050	2,100
Total Louisiana Gulf Coast	26,150	26,850
Louisiana Total	68,150	69,600

ARKANSAS

Champagnolle	3,500	3,600
El Dorado	3,900	4,000
Lisbon	850	800
Nevada	1,000	1,000
Smackover Heavy	35,100	35,250
Smackover Light	4,700	4,750
Stephens	850	900
Others	1,050	1,050
Total	50,950	51,350

MOUNTAIN STATES

WYOMING

Big Muddy	2,000	2,000
Elk Basin	750	700
Grass Creek	2,000	2,050
La Barge	1,500	1,900
Lance Creek	550	400
Lost Soldier	4,650	4,400
Oregon Basin	3,200	3,350
Rock River	2,100	2,150
Salt Creek	27,250	27,400
Others	3,150	4,450
Total	47,150	48,800

MONTANA

Cat Creek	1,150	1,150
Pondera	1,350	1,400
Sunburst	4,050	4,050
Others	50	50
Total	6,600	6,650

COLORADO

Florence	400	350
Fort Collins	1,150	1,150
Moffats (Craig)	1,050	950
Others	1,500	1,500
Total	4,100	3,950

NEW MEXICO

Artesia	650	650
Balance Lea Co.	8,400	7,100
Hobbs High	31,450	29,500
Hogback	450	450
Rattlesnake	1,050	1,000
Table Mesa	100	100
Eddy	200	200
Total	42,300	39,000
Total Mountain States	100,150	98,400

EASTERN STATES
(Including Ill., Ind., Ohio, W. Va., Pa., Ky., N. Y.)

	100,000	102,500
Michigan	8,800	8,950
Total Eastern States	108,800	111,450

PRODUCTION SUMMARY

East of Rockies	1,452,150	1,488,350
Total U. S.	2,126,750	2,202,200

MARKET SECTION

Cut-Price Crude Less Plentiful

DISTRESSED priced crude supplies in Texas have diminished materially as result of proration enforcement having become more generally effective towards the close of 1930. Natural decline of production on properties furnishing crude for sale at less than posted price has also figured in the decline, especially in the Chapman field, Williamson County, and in various fields in North and Central West Texas and the Panhandle.

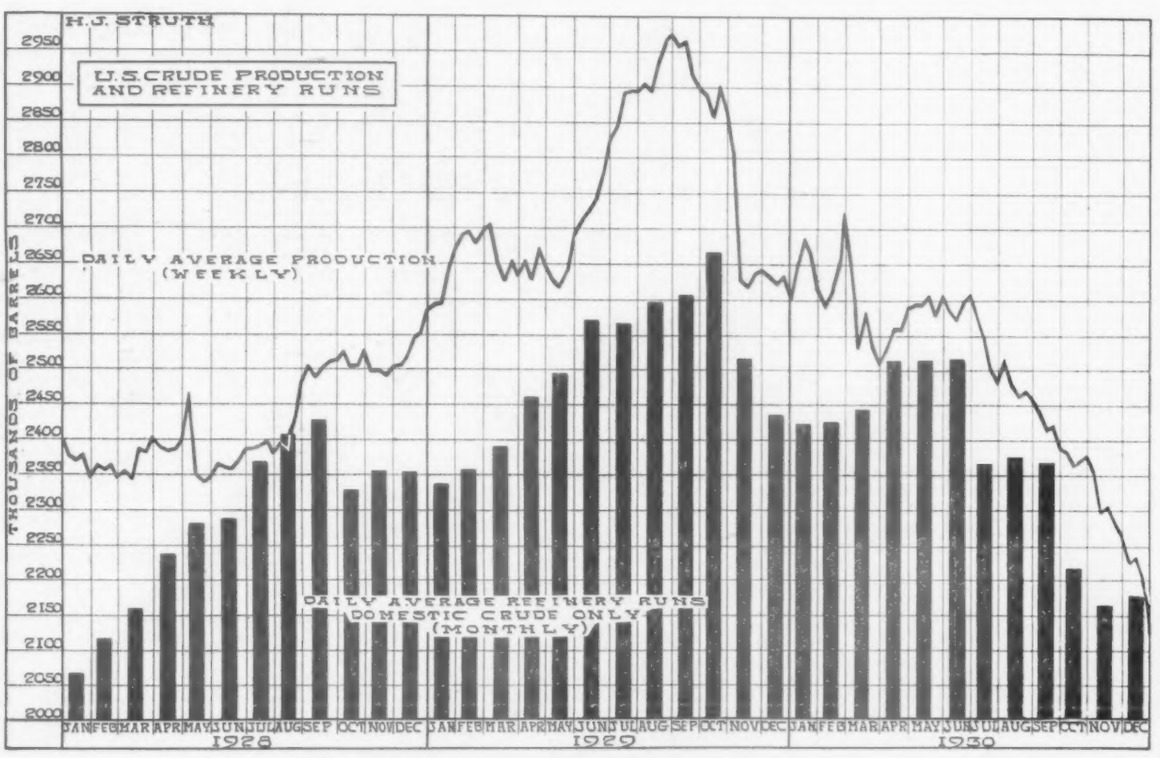
The most effective curb placed on crude sold in North Texas at sacrifice prices comes from common carrier pipe line companies limiting their takings from given leases and wells to allowable production earned under existing proration rules. Carriers are required by rules of the Railroad Commission to refuse to handle crude produced in excess of proration quotas, thereby preventing sellers of reduced priced oil from stepping up production to offset loss in financial return. Bulk of the Panhandle crude selling at distressed prices is going direct to local refineries or moving out in tank cars, so common carriers are not able to render aid in enforcing proration as is the case in the North Texas District where refineries receive oil via facilities of major companies.

While favorable progress is being made in stabilizing the price structure in these older districts of Texas, a fresh outbreak of trouble for the crude market is pending from the two recently discovered prolific oil areas in Rusk County, Central East Texas. The Joiner field is advancing into an active drilling campaign, with five oil producers to its credit, while an entirely new area located about 10 miles to the north was uncovered by Bateman and associates on December 28 with an initial flow of about 900 barrels of oil per hour, based on 40-minute open flow gauge. Tank car shipments offer the only visible market for these two high gravity oil areas, and the natural market outlet lies with refineries in Louisiana and Arkansas. The latter are interested in contracting for Rusk County crude, but are holding out for bargain prices, with indications that producers will make necessary price concessions to create a market promptly.

North Texas refined oil market experienced comparatively little trading during the last week of the year. Gasoline movement to domestic jobbers was unusually slow because of the latter cutting down inventories towards the close of 1930 business. Sales of U. S. motor gasoline vary in price from 3¼ to 4 cents per gallon.

Pipe for Line from Big Lake To San Angelo Ordered

San Angelo, Texas.—Pipe and other materials have been ordered by the Oklahoma Natural Gas Corporation to proceed at once in building natural gas lines from the Big Lake field to San Angelo and also to Girven, Texas. This concern contracted early in November to purchase gas ratably from the two producing companies in the Big Lake field for a period of 10 years, and to construct 70 miles of 12-inch line to San Angelo and about 50 miles of



MARKET SECTION

Weekly Comparisons of Permits Granted for New Wells

	Week Ending December 27	Previous week	This week 1929	Total this Month	This month 1929	Total this year	Total this date last year	1929 year total
Arkansas	2	1	..	7	5	108	159	159
California	16	13	12	52	67	922	1,231	1,231
Louisiana	6	13	3	39	51	948	903	903
Kansas	6	10	15	33	57	944	1,079	1,079
Oklahoma	21	34	77	115	291	2,830	3,578	3,578
Texas	..	125	..	258	518	7,052	8,697	8,697
Total	51	196	107	504	990	12,804	15,647	15,647

eight-inch line from Big Lake field via McCamey to Girven, where the fuel supply of the Pecos Valley Power & Light Company will be supplied. The West Texas Utilities Company will be the principal consumer of Big Lake gas at San Angelo, although other industrial plants have been booked. Construction of the line has been delayed because of the two power interests having failed to sign the contract until late last week. Operating offices of Oklahoma Natural Gas Corporation are maintained at Tulsa.

Two Young County Lines To Be Linked

Wichita Falls, Texas.—Direct movement of high gravity crude produced in the New Castle district, Young County, to refineries in the Wichita Falls area is to be made possible by the linking of two gathering systems of Prairie Pipe Line Company. Construction work has been started by Pure Oil Pipe Line Company of Texas, subsidiary of Prairie Pipe Line Company, on about four miles of four-inch line from the Olney field to the Larimore-Riggs field. The latter area was served exclusively by Prairie Pipe Line Company until The Texas Pipe Line Company began taking oil late in November for purchase and also for common carrier movement. However, The Texas Pipe Line Company pumps south and delivers a like volume of crude to Wichita Falls refiners from runs made in Wichita and Archer Counties. The new pipe line hookup being launched by Prairie interests will permit direct deliveries from the New Castle area to Wichita Falls refineries.

Houston.—Vacuum Oil Company has abandoned its fifth test of the Roanoke torsion balance prospect, Jefferson Davis Parish, Louisiana, this latest test having been Tietje 1, drilled to total depth of 4845 feet and abandoned in shale. Location of the well was only a short distance from that of DeVilbiss 1, first test of the area, which yielded a little 23 gravity oil at 4201 feet in January, 1929, and which came the nearest of all tests of the area to developing commercial production. Location of Tietje 1 was 750 feet west and 450 feet south of the northeast corner of the southeast quarter of Section 14-9s-4w.

Summarized Review of Field Results

State—	Completions This week	Completions Last week	Oil Wells This week	Oil Wells Last week	Gas Wells This week	Gas Wells Last week	Failures This week	Failures Last week	Initial Prod. This week	Initial Prod. Last week
Arkansas	5	4	..	2	2	1	3	1	1	317
California	13	22	10	22	..	..	3	..	5,625	10,200
Illinois	..	3	..	2	..	1	..	..	..	3
Indiana	3	4	1	2	1	1	1	1	20	20
Kansas	18	11	8	4	4	4	6	3	3,950	2,777
Kentucky	51	24	17	6	24	10	10	8	3,928	850
Louisiana	12	16	2	5	3	3	7	8	752	310
Mississippi	..	1	..	..	..	1	..	..	..	..
New Mexico	..	2	..	1	..	1	..	..	..	21,708
New York	..	1	..	1	..	..	..	..	..	3
Ohio	32	22	4	7	11	9	17	6	65	213
Oklahoma	48	44	17	23	14	7	17	14	68,094	107,312
Pennsylvania	14	34	11	28	..	2	3	4	35	75
Texas	59	73	23	33	11	3	25	37	29,226	18,969
West Virginia	10	18	3	4	4	10	3	4	27	139
Missouri	..	1	..	..	..	..	..	1	..	..
Total	265	280	96	140	74	53	95	87	111,723	162,906
Increase	..	..	..	..	21	..	8	..	..	..
Decrease	15	..	44	..	..	..	..	..	51,183	..

MARKET SECTION

Crude Oil Price Quotations

(Revised to December 30, 1930)

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Bradford—Alleghany district (posted by Tide Water Pipe Co., Ltd.) (Effective Nov. 13, 1930)	$2.15
Penna. Grade Oil in National Transit Lines (Other Pennsylvania) (Effective, Nov. 13, 1930)	1.85
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania) (Effective Nov. 13, 1930)	1.80
Penna. Grade Oil in Eureka Pipe Lines (West Virginia) (Effective Nov. 13, 1930)	1.70
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.) (Effective Nov. 13, 1930)	1.45
Corning Grade in Buckeye Pipe Lines (Ohio) (Effective Oct. 28, 1930)	1.25
Somerset Oil in Eureka Pipe Lines (Effective July 23, 1930)	1.14
Ragland Grade in Cumberland Pipe Lines (Kentucky) (Effective Jan. 9, 1929)... *Oil run prior to July 1, 1929 is $2.10 per bbl.	0.60

(Posted by Stoll Oil Refining Company)

Oil City, Ky., oil in Stoll lines (Effective Oct. 28, 1930)	1.10

MICHIGAN

(Posted by Dixie Oil Company)

Traverse and Dundee (Muskegon), effective April 16, 1930, same gravity and price schedule as Prairie posts in Oklahoma and Kansas, on gravity basis prior to reduction on Oct. 27, 1930.

(Posted by Pure Oil Company)

Midland, Midland County, Oct. 27, 1930..$1.10

CENTRAL STATES FIELDS

(Posted by Ohio Oil Company)
(Effective Oct. 28, 1930)

Wooster	$1.35	Princeton	1.30
Lima	1.10	Illinois	1.30
Waterloo	1.20	Plymouth	.88
Indiana	.87	W. Kentucky	1.15

CANADIAN CRUDE

(Posted by Imperial Oil Refineries, Ltd.)
(Effective October 28, 1930)

Petrolia	$1.50
Oil Springs	1.57

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Prairie Oil & Gas Co., and Stanolind Crude Oil Purchasing Company, Effective Nov. 1, 1930. Carter Oil Company Same Schedule Effective Oct. 28.

Below 29	$0.65	35-35.9	.92
29-29.9	.69	36-36.9	.95
30-30.9	.73	37-37.9	.98
31-31.9	.77	38-38.9	1.01
32-32.9	.81	39-39.9	1.04
33-33.9	.85	40 and above	1.07
34-34.9	.89		

Magnolia Petroleum Company Effective October 28.

Below 26	.53	27-27.9	.61
26-26.9	.57	28-28.9	.65

From here to 40 and above gravity same schedule as above.

NORTH TEXAS

Posted by All Purchasers Except Magnolia Petroleum Company

Ranger, North Texas, Van, Mexia, Powell, Boggy Creek, Richland, Wortham, Lytton Springs, Currie, Moran, and Nocona crudes:

Below 29	$ .65	35-35.9	.92
29-29.9	.69	36-36.9	.95
30-30.9	.73	37-37.9	.98
31-31.9	.77	38-38.9	1.01
32-32.9	.81	39-39.9	1.04
33-33.9	.85	40 and above	1.07
34-34.9	.89		

Magnolia Petroleum Company, Effective October 28

Below 26	.53	27-27.9	.61
26-26.9	.57	28-28.9	.65

From here to 40 and above gravity same as schedule above.

(Continued on Page 42)

California Prices

Effective September 15, 1930, at 7:00 A. M. the following are the current prices offered by
STANDARD OIL COMPANY OF CALIFORNIA

Gravity	Signal Hill	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Playa del Rey†
14-14.9	$ .70	$ .70	$ .70	$ .70	$ .70	$ .70			$ .70	$ .70	3 .70	$ .70	$ .70		$ .55	$ .55	$ .55	$ .55	$ .55	$ .55	
15-15.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	
16-16.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	
17-17.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	
18-18.9	.76	.76	.76	.76	.76	.76			.76	.76	.76	.71	.76		.55	.62	.62	.62	.62	.62	
19-19.9	.82	.82	.82	.82	.82	.82			.82	.82	.82	.77	.82		.55	.70	.70	.70	.70	.70	
20-20.9	.88	.88	.88	.88	.88	.88			.88	.88	.87	.83	.87			.78	.78	.78	.78	.78	$.74
21-21.9	.94	.94	.94	.94	.94	.94			.94	.94	.93	.90	.93	$.92		.86	.86	.86	.86	.86	.77
22-22.9	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	.98	.97	.98	.95		.94	.94	.94	.94	.94	.81
23-23.9	1.07	1.07	1.07	1.07	1.07	1.07			1.07	1.07		1.05	1.04	1.01		1.02	1.02	1.02	1.02	1.02	.84
24-24.9	1.12	1.12	1.12	1.12	1.12	1.12	$1.12		1.12	1.12		1.08	1.08	1.05		1.06	1.06	1.06	1.04	1.04	.87
25-25.9	1.17	1.17	1.17	1.17	1.17	1.17	1.17		1.17	1.17		1.11	1.12	1.09		1.10	1.10	1.10	1.06	1.06	.90
26-26.9	1.22	1.22	1.22	1.22	1.22	1.22	1.22		1.22	1.22		1.15	1.16	1.13		1.14	1.14	1.14	1.08	1.08	
27-27.9	1.26	1.26	1.26	1.26	1.26	1.26	1.27		1.26	1.26		1.19	1.21	1.18		1.18	1.18	1.18	1.11	1.10	
28-28.9	1.30	1.30	1.30	1.30	1.30	1.30	1.32		1.30	1.30		1.23	1.25	1.23		1.23	1.23	1.23	1.15		
29-29.9	1.34	1.34	1.34	1.34		1.34	1.37			1.34		1.26	1.29	1.28		1.29	1.29	1.29	1.19		
30-30.9	1.38	1.38	1.38	1.38		1.38	1.42			1.38		1.29	1.33	1.33		1.35	1.35	1.35	1.23		
31-31.9	1.43	1.43	1.43	1.43		1.43	1.43							1.38		1.41	1.41	1.41	1.27		
32-32.9	1.48	1.48	1.48	1.48			1.52							1.43		1.47	1.47	1.47	1.31		
33-33.9							1.57							1.48		1.53	1.53	1.53	1.35		
34-34.9							1.62	$1.32						1.53				1.59	1.39		
35-35.9							1.66	1.39						1.58				1.65	1.43		
36-36.9							1.72	1.46						1.63							
37-37.9							1.78	1.53						1.68							
38-38.9							1.84	1.60						1.73							
39-39.9							1.90	1.66						1.78							
40-40.9							1.96	1.72													
41-41.9							2.02	1.78													
42-42.9							2.08	1.84													

F. O. B. Ship

KETTLEMAN HILLS*

35-39.9	$1.10
40-44.9	1.20
45-45.9	1.35
50-54.9	1.50
55 and above	1.65

*Posted by Union Oil Company. †Effective December 18, 1930.

MARKET SECTION

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 41*)

PANHANDLE

Posted by All Purchasers, Effective Oct. 28, 1930

Gray County Crude

Below 29	$ .50	35-35.9	.77
29-29.9	.54	36-36.9	.80
30-30.9	.58	37-37.9	.83
31-31.9	.62	38-38.9	.86
32-32.9	.66	39-39.9	.89
33-33.9	.70	40 and above	.92
34-34.9	.74		

Carson and Hutchinson County Crudes

Below 29	$ .45	35-35.9	.72
29-29.9	.49	36-36.9	.75
30-30.9	.53	37-37.9	.78
31-31.9	.57	38-38.9	.81
32-32.9	.61	39-39.9	.84
33-33.9	.65	40 and above	.87
34-34.9	.69		

WEST TEXAS

Posted by All Purchasers, Effective October 28, 1930

Winkler and Pecos County Crudes:

Below 25	$ .55	31-31.9	.69
25-25.9	.57	32-32.9	.71
26-26.9	.59	33-33.9	.73
27-27.9	.61	34-34.9	.75
28-28.9	.63	35-35.9	.77
29-29.9	.65	36 and above	.79
30-30.9	.67		

Crane, Upton, Crockett, Ector, Ward, Loving, Mitchell,* Howard, and Glasscock Counties, Texas, and Lea County, New Mexico crudes

Posted by All Purchasers, Effective Oct. 28, 1930

Below 25	$ .50	31-31.9	.64
25-25.9	.52	32-32.9	.66
26-26.9	.54	33-33.9	.68
27-27.9	.56	34-34.9	.70
28-28.9	.58	35-35.9	.72
29-29.9	.60	36 and above	.74
30-30.9	.62		

*Magnolia Petroleum Company uses Gravity scale and Coltex Refining Company pays flat price of 60 cents for Mitchell County.

GULF COAST

(Posted by Humble Oil & Refining Company, The Texas Company and Sun Company)

Gulf Coast Crude will be classified as follows in fields designated below:

Goose Creek, Hull, Boling, Liberty, Orange, Pierce Junction, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugar Land, West Columbia and Humble crudes:

"A" GRADE—All crudes conforming to the following tests:

Viscosity—Not less than 100 seconds at 100° F. Saybolt.

Sulphur—Not over .4%.

Beaume Gravity—Not over 25 at 60° F.

Cold test of distillates having a viscosity of 1000 seconds at 100° F, shall not be over 5° F.

"A" GRADE—$1.00.

"B" GRADE—Embraces all Coastal crude which does not meet the test for "A" grade crude:

Below 25	$ .75	26-26.9	.94
25-25.9	.92	27-27.9	.96
28-28.9	.98	34-34.9	1.10
29-29.9	1.00	35-35.9	1.12
30-30.9	1.02	36-36.9	1.14
31-31.9	1.04	37-37.9	1.16
32-32.9	1.06	38-38.9	1.18
33-33.9	1.08	39-39.9	1.20
		40 and above	1.22

Markham (The Texas Company) ..... .75

Posted by Gulf Pipe Line Company, Effective October 30, 1930

High Island	$ .75		
Grade "A"	.80		
Grade "B"			
Below 25	$ .69	33-33.9	.87
25-25.9	.71	34-34.9	.89
26-26.9	.73	35-35.9	.91
27-27.9	.75	36-36.9	.93
28-28.9	.77	37-37.9	.95
29-29.9	.79	38-38.9	.97
30-30.9	.81	39-39.9	.99
31-31.9	.83	40 and above	1.01
32-32.9	.85		
Jennings, La.	.80		

SOUTHWEST TEXAS

Posted by All Purchasers, Effective Oct. 28, 1930

Refugio Heavy crude, below 25 gravity.. .75

Refugio Light crude:

25-25.9	$ .92	33-33.9	1.08
26-26.9	.94	34-34.9	1.10
27-27.9	.96	35-35.9	1.12
28-28.9	.98	36-36.9	1.14
29-29.9	1.00	37-37.9	1.16
30-30.9	1.02	38-38.9	1.18
31-31.9	1.04	39-39.9	1.20
32-32.9	1.06	40 and above	1.22

Mirando crude ..... $. 75
Salt Flat crude ..... .90
Darst Creek crude ..... .90
Pettus crude 1.10
Luling ..... .75
Corsicana, heavy ..... .75

Determination of quality, deductions, adjustment for temperature, etc., on oil purchased in Texas, shall be in accordance with the rules and regulations of the Texas Railroad Commission, and on oil purchased in New Mexico shall be in accordance with the rules and regulations of the Corporation Commission of New Mexico.

LOUISIANA-ARKANSAS

All Purchasers Except Magnolia Petroleum Co., Effective Oct. 29, 1930

Pine Island District, Haynesville District, Bull Bayou District, El Dorado District, Rainbow District, Cotton Valley

Below 29	$ .65	31 to 31.9	.77
29 to 29.9	.69	32 to 32.9	.81
30 to 30.9	.73	33 to 33.9	.85
34 to 34.9	.89	40 to 40.9	1.07
35 to 35.9	.92	41 to 41.9	1.10
36 to 36.9	.95	42 to 42.9	1.13
37 to 37.9	.98	43 to 43.9	1.16
38 to 38.9	1.01	44 and above	1.19
39 to 39.9	1.04		

Urania, La. ..... .75
Bellevue, La. 1.00

Magnolia Petroleum Company, Effective October 30, 1930

Below 26	$ .53	27-27.9	.61
26-26.9	.57	28-28.9	.65

From here prices same as schedule above.

STEPHENS

Below 29	$ .54	31 to 31.9	.66
29 to 29.9	.58	32 and above	.70
30 to 30.9	.62		

Smackover ..... .70
El Dorado, East Field ..... .70

ROCKY MOUNTAIN FIELDS

(Salt Creek prices effective Oct. 28, 1930)

‡Salt Creek	29-29.9	.69
" "	30-30.9	.73
" "	31-31.9	.77
" "	32-32.9	.81
" "	33-33.9	.85
" "	34-34.9	.89
" "	35-35.9	.92
" "	36-36.9	.95
" "	37 and above	.98

Elk Basin (Effective Oct. 28, 1930) 1.25
Grass Creek light 1.25
Big Muddy 1.00
Lance Creek 1.33
Rock Creek 1.01
Mule Creek 1.20
Rex Lake 1.10
‡Osage (Nov. 1, 1930) ..... .85
‡Cat Creek, Montana 1.25
Pondera 1.45
Sunburst, Montana 1.55
‡Hogback, New Mexico 1.40
Artesia, New Mexico ..... .75

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

STATE CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.

Texas—Two per cent of gross value.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 per cent of gross market value.

Montana—Two per cent of gross value at well.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

Purchasers Seeking Relief For Eastern Oklahoma-Kansas

TULSA, Okla.—Future disposition of oil from the settled pools of Eastern Kansas and Northeastern Oklahoma will be determined by a committee of which R. M. Young, president of Carter Oil Company, is chairman. This committee was named by purchasers of crude oil in the Mid-Continent, who met here last week. The general meeting, which was in two executive sessions, resulted from necessity for caring for this oil, which will be without pipe line outlet after January 1, when Prairie Oil & Gas Company retires as a purchaser of crude oil.

Purchasers evidently failed to agree on any plan of relief for producers in these older districts, as no plan was made public and the committee was named to work out methods. The plight of producers in these districts came into official circles through appeals to President Hoover. In turn the Federal Oil Conservation Board took notice of the condition and had representatives of the United States Geological Survey on hand to gather information. An appeal was made by Dr. Ray Lyman Wilbur, Secretary of the Interior and chairman of the conservation board, to officials of the American Petroleum Institute, seeking the assistance of that organization in a solution of the economic problem resulting from the withdrawal of Prairie Oil & Gas Company as a purchaser.

The oil affected by the withdrawal of the Prairie company amounts to 35,000 barrels daily. The common opinion is that this oil can not be handled profitably and that any solution must come through determination of purchasers to keep these older fields and leases active, despite the fact that ample flush production is available at lower gathering costs.

To some extent the situation has resolved itself into a controversy between Standard Oil Company (Indiana) and Prairie Oil & Gas Company. Some Kansas oil producers sent an appeal to E. G. Seubert, president of Standard Oil Company (Indiana) asking that his company take the lead in offering relief. This appeal was based on the supposition that Prairie Oil & Gas Company had been forced to withdraw as a general crude oil purchaser, because the Indiana company would cease January 1 to buy oil from the Prairie.

A. W. Peake, vice-president of the Indiana company, was in Tulsa for the meeting and later gave out the following statement:

"Standard of Indiana and subsidiaries are ready to cooperate to the fullest extent. This is an economic problem and should be handled as such. Erroneous and unfair reports have been spread in the press and elsewhere with a view to shifting the blame for the situation from Prairie to Standard of Indiana and others. In view of these reports, we must emphatically state that our companies have had no part whatever in creating the peril which the stripper well producers face.

"We purchased a half interest in the Sinclair pipe line system in 1921 and transferred part of our business to it because Prairie's failure to supply our requirements through pumping oil east of Chicago had forced us to ship in by rail at a loss. In September, 1930, we acquired full ownership of the Sinclair purchasing and pipe line system. As the Stanolind system, it is now filling the major part of our requirements. But the crude for Indiana refineries comes from the Mid-Continent and Texas as before. The shift has only been as to individual wells and local areas.

"In recent years, Prairie has suffered more important losses than loss of our business as its other customers have built their own pipe lines. We have built no new facilities to create new competition, but merely transferred part of our business to facilities already existing. At the same time, business formerly handled for the Sinclair refineries by the present Stanolind pipe lines has been released for Prairie to secure if it would. It is assuredly through no fault of Standard of Indiana that the reported plans for a Prairie-Sinclair merger fell through.

"As a matter of fact, Prairie has not lost its markets. Standard of Indiana is still buying approximately 18,000 barrels a day, though most of this could be furnished through the Stanolind system, which is running under capacity. This is evidence of Indiana's willingness to play fair. After January 1, we understand, Prairie will obtain the business of the Sinclair refinery at East Chicago, averaging about 30,000 barrels, which the Stanolind system now has. Through these and other connections, Prairie continues to enjoy substantial markets and has good prospects for increasing them.

"We believe the primary responsibility in regard to the situation rests on the Prairie organization which has enjoyed the profits from gathering and distributing oil from the stripper wells in better times. This seems especially true as Prairie is continuing runs from its own leases in all states.

"If Prairie will not meet this responsibility, we have

MAINTENANCE OF PRESSURE AT RACCOON BEND

Maintenance of pressure through return of gas to producing sands as a means of increasing ultimate recovery in the Raccoon Bend field, Austin County, Texas, as practiced by Humble Oil & Refining Company will be discussed fully and graphically illustrated in THE OIL WEEKLY, *January 9, through the presentation of a series of three articles.*

* * * *

The theory of pressure maintenance, the history of practice at Raccoon Bend and something of the expected results of the application of engineering procedure in this field will be discussed by G. H. L. Kent, who is in charge of repressuring and pressure maintenance work for Humble Oil & Refining Company.

* * * *

A detail description of the modern natural gas compression plant operating in conjunction with the pressure maintenance project, written by George Reid, staff representative, THE OIL WEEKLY, *will be included.*

* * * *

The history of the development of the Raccoon Bend field, something of the geological conditions existing in this area, and a discussion of production factors, problems, and types of crude produced, are included in an article by Jack Logan, staff representative, THE OIL WEEKLY.

* * * *

The articles, prepared by men familiar with their subjects and assisted by the engineering department of the operating company, present an interesting and valuable contribution to pressure maintenance engineering.

before us a relief problem in which the responsibilities rest as much on one purchaser in this area as another. If it is uneconomic for Prairie to buy stripper production it is uneconomic for any other. But we can all join in some method of emergency relief until such time as Prairie can handle the situation in a normal way. Standard of Indiana and subsidiaries are ready to do their full and fair share in any such undertaking and are here to work out a plan in detail."

Prairie Replies

A reply to the statement by Mr. Peake was made by W. S. Fitzpatrick, chairman of the board of Prairie Oil & Gas Company, while the purchasers and carriers were still in Tulsa for further deliberations. He said:

"I heard Mr. Peake's statement as he read it at the meeting. I think I answered all the essential points at that time. I came here not to engage in a publicity contest with anybody, but to attend a meeting of the purchasers of crude oil with a view to lending any aid possible in working out relief for the Oklahoma and Kansas producers from whom we have for years past been purchasing oil.

"I do not think it advisable to disturb the deliberation of that body, which meets again tomorrow, with a brick throwing contest of any sort. If the purchasers of crude oil, who have refineries and marketing outlets for their products, can not afford to purchase this crude, I don't see how they could expect Prairie Oil & Gas Company to do so when it has neither refineries nor outlets.

"Concerning Mr. Peake's references to Mr. Sinclair, I should perhaps say that Mr. Sinclair is arranging to ship his own oil to the extent of his requirements at his Chicago plant through Prairie Pipe Line Company's lines, and if Prairie Oil & Gas Company has anything to do with that supply, it will be only temporary for a few weeks until he can get his own lines in operation to a connection with the Prairie line. Such an arrangement will not increase the market of Prairie Oil & Gas Company for Mid-Continent crude to any appreciable extent, and certainly not to the extent that we have put oil in storage during the past month while we were giving notice to our customers of our intention to withdraw from the market January 1."

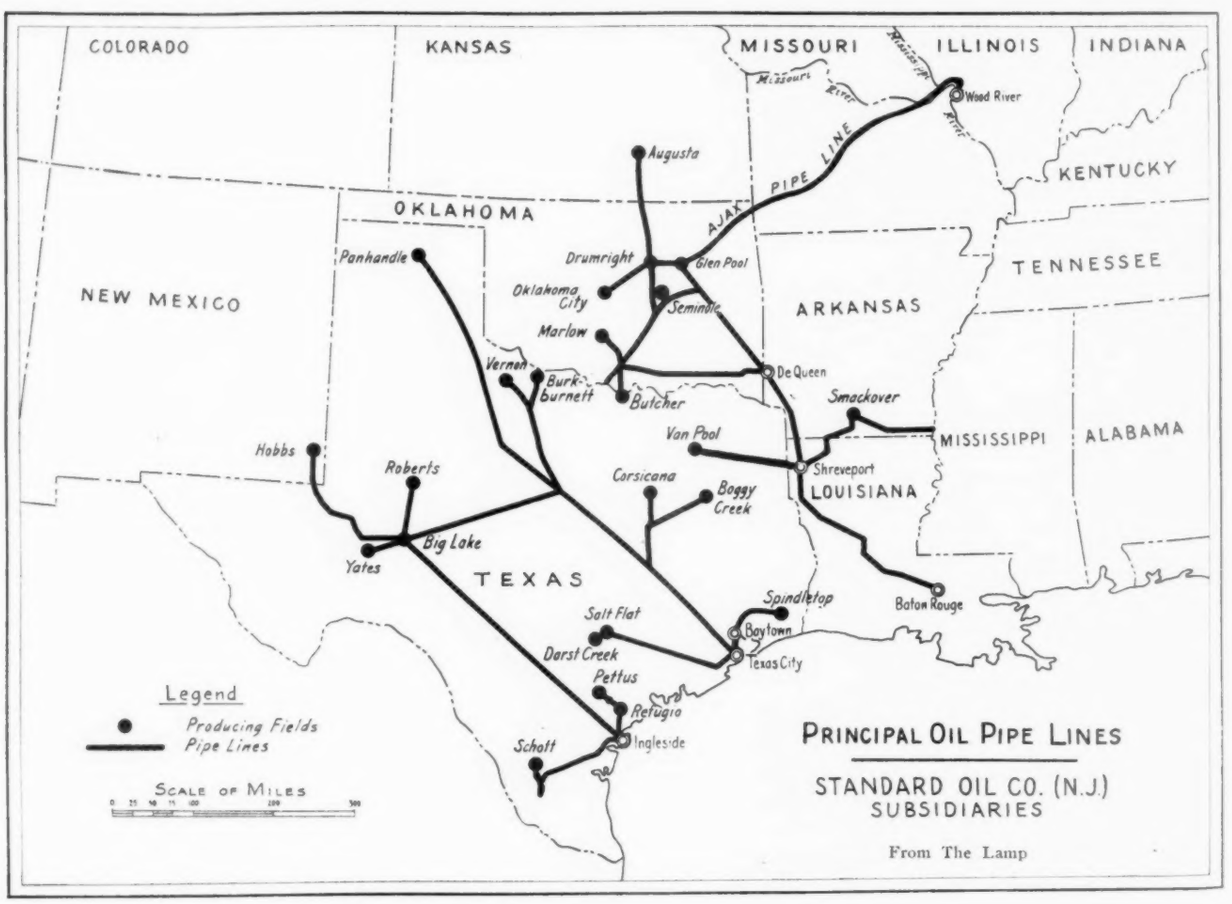
(*Continued on page 62*)

Prairie Curtailment Not to Extend to Cutting Regular Personnel

Independence, Kansas. — Prairie Oil & Gas Company, through W. S. Fitzpatrick, chairman of the board, and W. F. Gates, president, has made the following announcement:

"We are advised by a prominent public official that it is currently reported that Prairie Oil & Gas Company and Prairie Pipe Line Company contemplate the discharge of 25,000 men. These two companies do not employ anything like that number of people. Further, we have not, up to this time, considered the necessity for the discharge of any of our regular employees and we do not at present expect such action to be necessary.

"Prairie Oil & Gas Company and Prairie Pipe Line Company will continue in business on a scale that will require the services of the men now in their employ, or we will very soon engage in other activities, which will require all the experienced employees that we now have and perhaps more."



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—Photo by Mr. A. E. Evans

Oklahoma--Kansas Field Notes

FLOYD L. SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Seek Proration for Wells of Eastborough Pool

WICHITA, Kansas.—Efforts are being made to prorate the seven deep sand producers in the Eastborough pool east of Wichita. For a number of months after the beginning of the drilling campaign in June, 1930, this pool enjoyed an outlet for all of its daily potential. It was one of the few flush areas which had not been prorated in some manner. Operators now propose to either completely close in the deep producers or to restrict them to 50 barrels per day each. The estimated potential of this production is about 5000 barrels daily.

Daily average production for the Voshell pool for the week ending December 24, was 12,660 barrels from 94 wells. Efforts to install a more rigid restriction of production have been unsuccessful and the pool is now limited to 18.91 per cent of its potential. There are no operations.

Ritz Pool Production

Daily average production from the Ritz pool for the period ending December 24, was 9750 barrels from 31 wells. Shell Petroleum Corporation's Lewis 1, NW SE Section 30-19s-1w, swabbed 3000 barrels initially from seven feet of Viola lime topped at 3412 feet. It is the south offset to the discovery well. Same company's Anderson 1, SE NW, was five feet in the Viola lime at 3415 feet and was making about 10 barrels per hour while cleaning out. Mid-Kansas Oil & Gas Company's Whitright 1, discovery well in Section 30-19s-1w, and McBride et al's wells offsetting it in the southwest, are each producing 50 barrels per day under proration. Dixie Oil Company and Amerada Petroleum Company's Flook 1, Section 1-20s-2w, produced 1077 barrels during the first 12 hours from 29 feet of chat topped at 2937 feet. Total depth is 2966 feet.

Eleven wells in the Raymond pool are producing 550 barrels daily under an agreement by Prairie Oil & Gas Company to take 50 barrels daily from each.

Tatums Pool Adds New Well; Extensions Appear Likely

TULSA.—One new producer, one location, and two tests showing good for extensions are included in activities of the past week in the Tatums pool. Frank Gouin et al's Burton 1, SE SW NE Section 31-1s-2w, approximately 1½ miles southeast of production, logged broken oil sand from 1834 to 1844 feet and solid sand from 1844 to 1862 feet. Total depth is 1970 feet in blue shale. Casing has been cemented at 1822 feet and operators plan on drilling the plug within the week.

Location of commercial production in this test would probably reveal the location of a new structure rather than extend production on the present Tatums structure. Approximately three-quarters of a mile northwest of production, Magnolia Petroleum Company has cemented nine-inch casing at its R. F. McCrory 1, SE SE SE Section 10-1s-3w. Oil sand was logged between 2353 feet and the total depth of 2363 feet. C. L. Anderson's Eaves 7, SW NE SW Section 24-1s-3w, new producer in the southwest part of the extension, swabbed 600 barrels during the first 24-hour gauge from broken and solid sands logged between 2327 and 2460 feet. Although the well is a south offset to a 1900-barrel well and a southeast offset to a 2500-barrel well, it was not expected to be large because of the showing made by wells to the east and southeast.

Magnolia Petroleum Company has completed derrick and is waiting on tools at its Henry Carter 3, NW SE SW Section 14-1s-3w, diagonal southeast offset to Lesh and McCall's recent extension well one-fourth mile north of production.

Four New Wells Completed At Oklahoma City

OKLAHOMA CITY.—Four wells were completed during the fiscal week and one new location announced in the Oklahoma City pool. Gant and Garvin's Dunniven 1, SWc SE Section 34-12n-3w, set 6⅝-inch casing 18 feet above the top of the Wilcox at 6310 feet and at a total depth of 6486 feet produced 8695 barrels of oil in three hours and 10 minutes. Same company's Meade 1, Section 34-12n-3w, northwest offset to T. B. Slick's Lard 1, had top of the Wilcox at 6245 feet and gauged 8953 barrels in three hours and 25 minutes.

Ranks of the violators of proration regulations were increased by one when, on Christmas day, Morgan Petroleum Company's Stout 1, CSW NW Section 2-11n-3w, was opened wide and permitted to flow at an estimated rate of 500 to 600 barrels per hour. It was still open at the time of last reports. Wilcox Oil & Gas Company and Champlin Oil & Refining Company are taking the oil. No definite information concerning the amount of oil contracted for or the amount being run by each company is available at this time. However, it is known that Wilcox Oil & Gas Company had shipped over 90 tank cars of the oil to its refinery at Bristow between Christmas day and the morning of December 28. Champlin Oil & Refining Company is running part of the oil through its pipe lines. Seekers of information were informed at the Oklahoma City offices of Morgan Petroleum Company, that Fred Morgan, president and organizer of the company, was out of the city and had left no forwarding address. It will be remembered that the first and only producer of the company cut out connections on October 31, and blew wild for approximately three days, doing a great amount of damage to property in the eastern part of the residential district in Oklahoma City. The company has been put to considerable expense in repair work, having hired crews of painters, landscape gardeners, and whatnot in putting residences back into livable appearance.

Postpone Court Hearing

Hearing on Marco Oil & Refining Company's and Centry Petroleum Company's petitions for relief from the present injunction restraining them from producing their wells pending final court action, which was set for December 26, has been postponed to January 2, 1931. Both companies have been cited for repeated contempt of the proration regulations and receivership actions have been instituted by the State of Oklahoma.

According to figures of the field umpire, there were 1,202,714 barrels of oil in storage in the Oklahoma City pool on the

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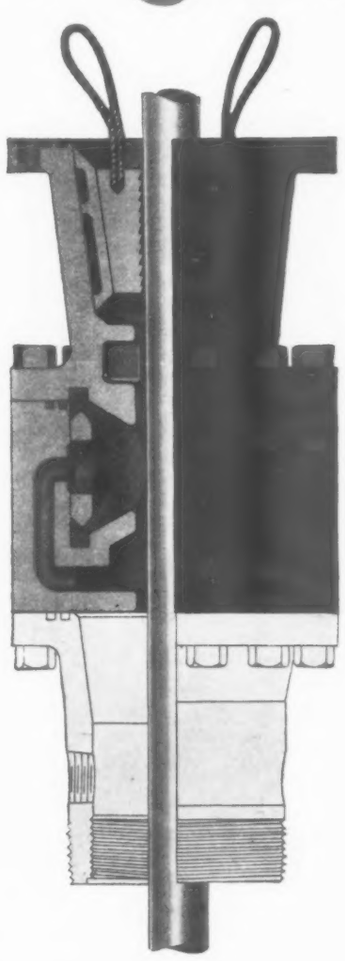

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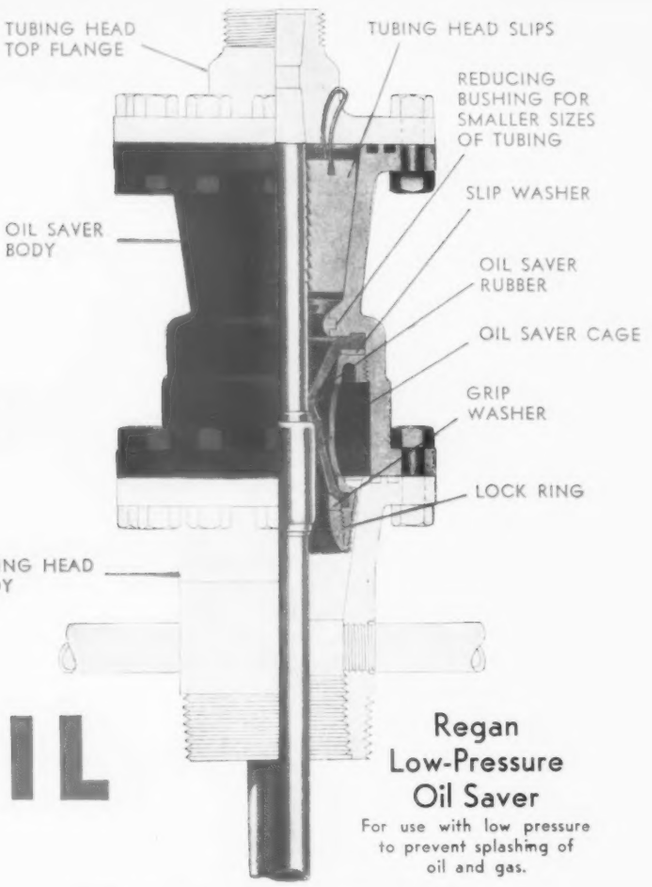

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morning of December 22. Stocks by companies as of that date follow:

	Barrels		Barrels
Acme Pet. Co.	3,324	C. C. Julian O.&R.	.....
Anderson-Pritchard	21,735	Kedberg Oil Co.	.....
Blackstock et al	6,492	Mabee et al	6,352
Blackwell O.&G. Co.	3,150	Marco O.&R.	6,163
British-American	33,725	Mid-Kansas	4,644
Capitol P.&R. Co.	8,550	Mid-Tex	.....
Century Pet. Co.	4,967	Minnehoma	11,242
Champlin O.&R. Co.	.....	Morgan Pet.	.....
Chatham Oil Co.	7,502	Oils, Inc.	1,191
Coline	54,217	Phillips Pet.	66,288
Continental	9,800	Plains Pet.	10,127
Cromwell-Franklin	29,249	Prairie O.&G.	3,405
Dengail O.&G.	750	Reynolds & Unruh	.....
Denver P.&R. Co.	5,038	Russell Pet.	4,426
Don Leon	250	J. C. Shaffer	18,832
Empire O.&R.	649	Shell Pet. Corp.	1,433
Wirt Franklin Pet. Corp.	125,989	Sinclair	72,996
		Skelly	47,963
Gant & Garvin	7,573	Slick Estate	149,674
Hall & Briscoe	3,118	Wrightsmith	3,542
I.T.I.O.	468,358		
Jones Drilling Co.	.....	Total stocks	1,202,714

As of the same date the total overage was 606,477 barrels and total underage 1,112,591 barrels. Wells producing gasoline had total stocks of 2504 barrels.

Texas Panhandle Production Takes Big Drop Under Latest Order

Amarillo, Texas.—Effect of the 24,500-barrel production cut ordered December 15 for the Texas Panhandle became evident during the past week when the output dropped to 56,220 barrels daily, as compared to a daily average of 75,475 barrels the previous week. However, the district must undergo considerable more trimming of production before reaching its allotted quota of 40,000 barrels daily. Lease owners in Gray County appear to be the principal offenders in exceeding proration allowances, as this county was credited with averaging 44,050 barrels daily during the past week, or slightly more than the total quota assigned the six counties that produce oil. Gray County registered a decrease of about 12,300 barrels in the past week, and is now at the lowest level that has been reached since May, 1929.

Flush production from the Sullivan area in western Gray County appears to be more remote as additional tests reach the expected oil level with disappointing results for the well owners. Magnolia Petroleum Company's Latham 1, which scored an initial output of 1815 barrels oil at 3153 feet several weeks ago, has developed water trouble, and early this week was flowing about 840 barrels oil and five per cent water. This company's Latham 2, an offset, is flowing about 30 barrels daily at 3140 feet. Phillips Petroleum Company's Agnes Barrett 1 is also considered removed as a possible source of big production, as it was making about 60 barrels oil daily early this week at 3405 feet, with production coming from granite wash at 3125-30 and 3224-26 feet.

Empire Gas & Fuel Company's Sullivan 1, an east offset to the discovery well of the Sullivan area, is swabbing about 15 barrels oil daily after plugging back from water at 3598 feet to 3238 feet for a shot of 220 quarts at 3202-38 feet. H. H. Sanders et al's Sullivan 2, located a short distance east of the above well, developed 6,000,000 feet gas at 2997-3065 feet, but failed to encounter oil when deepened below 3200 feet.

Oklahoma Commission Extends Proration for Quarter

Tulsa.—The Corporation Commission signed an order extending proration for the first quarter of 1931 Tuesday, December 30, after hearing petition of operators' committee previous day. Strenuous objection was anticipated but failed to materialize. H. G. McKeever, representing Champlin Oil & Refining Company, charged 10 major companies with proration violations and stated watchers for company had observed over 100 wells for a period of six weeks and would testify that all were continuously violating regulations. McKeever requested that Fred Capshaw, commissioner, make public statement as to his personal holdings in the Oklahoma City pool, intimating that this official was biased on the proration question.

W. S. Morris, petroleum engineer, Indian Territory Illuminating Oil Company, testified that the Oklahoma City pool could produce 5,388,000 barrels daily in January, 5,838,000 barrels daily in February and 6,411,000 barrels daily in March if all wells were permitted to flow wide open.

One Operation in Cement Pool

Tulsa.—Mid-Kansas Oil & Gas Company and Ramsey Petroleum Corporation have staked location for their Preston-Culp 1, NW NW NE Section 6-5n-9w, in the west portion of the Cement pool in Caddo County. All other operations in this district have been shut down.

Batson and Starrett resumed bailing and cleaning out in their Dillard 1, CSE NE NW Section 25-6s-2e, approximately five miles northeast of Mariette. This is an old well drilled several years ago by Schermerhorn-Ardmore Company. Operators plan on cleaning out to shoot and test sands logged from 1585 to 1596 feet and 2381 to 2387 feet.

Gilcrease Oil Company's Burkhart 1, CNE NE NW Section 13-8s-1e, about four miles south and two miles west of Marietta, is shut down at 700 feet. Operations are scheduled to be resumed on January 1.

Ross and Seward are drilling below 2625 feet in their Nettie Anderson 1, SE NE SE Section 32-4s-2e, one-half mile east of Ardmore. Several months were spent in drilling by lost drill pipe in this test.

Darst Creek Off 2000 Barrels Daily

Houston.—During the past week there was more strict adherence on the part of Darst Creek producers to proration production allowances, and the average output for the seven days ending December 27 was 34,550 barrels daily according to the estimate of the American Petroleum Institute. This represents a decrease of over 2000 barrels as compared with the daily average for the previous week. Official proration allowance is 30,000 barrels daily.

Early this week Umpire H. H. Fitzpatrick announced a new proration schedule, Number 20, which is to be effective December 29 to January 29. The schedule shows a total of 248 producing wells in the field.

Due to limited time and since there was a complete regauging of the field only a few weeks ago, the new schedule is based on actual gauges of 16 wells completed since announcement of the previous proration schedule, whereas the potentials of the 232 older wells were figured from their potentials as shown on the gauging for the November 29-December 29 schedule. In this calculation wells were credited with the same amount of decline during the 30 days following November 29 that they showed during the 30 days preceding November 29 as revealed by actual eight-hour gauges.

North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Big Lake Field Well To Test Lower Lime Formation

SAN ANGELO, Texas.—Having failed to score a satisfactory oil and gas output from the regular deep horizon in the Big Lake field, Big Lake Oil Company's University 5-C was drilling in lime at 8704 feet early this week to try for production in the lower lime formation. This test is located about one-half mile north of the established deep producing area, and when unloaded at 8617 feet showed for a small producer. First deep production appeared at 8160-65 feet, with noticeable increases in gas volume in the next 100 feet of hole drilled. Most of the hole drilled below 8200 feet has been cored, then reamed, thereby enabling the drilling crew to feel their way and note change in formations. Loffland Brothers, Tulsa, contracted to deepen this test from the 2400-foot level, where rotary was substituted for company operated cable tools. The hole is cased with 20-inch surface pipe at 104 feet, followed by 13⅜-inch at 3015 feet, and 9⅝-inch at 5495 feet. The last string of casing consisted of seven-inch A. P. I. pipe at 8051 feet. Thirty-four hundred sacks of cement were used on these four separate strings.

Group One Oil Corporation's University 4-B is also approaching the deep production level, as seven-inch pipe has been cemented with 900 sacks at 8050 feet. This test was spudded 7 p. m. September 1, and has not experienced a mishap of any consequence in reaching the last casing point. Loffland Brothers also are drilling University 4-B on contract.

Efforts of Group One Oil Corporation to deepen University 2-B from 8489 feet before running a string of seven-inch casing and install tubing has been halted since December 18 because of twisting off drill stem at 8300 feet. This well was averaging about 2100 barrels oil and 25,000,000 cubic feet of gas daily against heavy back pressure before being killed with mud and baroid. More than 12,000 sacks of admixture have been pumped into the hole to kill the production and prevent blowouts while trying to get the drill stem on bottom. Both oil and gas have been injected to try and free the drill stem.

Production from the six deep wells at the beginning of the present week amounted to 10,267 barrels oil and 77,559,000 cubic feet of gas, or a ratio of 7554 cubic feet of gas for each barrel of oil brought to the surface. The gas-oil ratio has been greatly reduced from these deep wells. Big Lake Oil Company's University 2-C is rigging up to pull 276 joints of tubing because of the latter having bridged, or clogged since December 13, and in the meantime is flowing about 1300 barrels oil and 13,000,000 cubic feet of gas daily via casing, with 400 pounds back pressure applied. Production from this well has been reduced sharply since tubing trouble developed.

Wheat Field Leads All West Texas Areas in Development

San Angelo, Texas.—Development work in the Wheat field, located in southwestern Loving County, leads all other single areas in the West Texas district in regard to volume of activity. Current operations credit 12 active tests to this old field, which made its first entry on the oil producing list in September, 1925, and indications are that development will be continued on a moderate basis, as market and transportation is available. The field is producing about 3100 barrels of 38-40 gravity oil daily from the Delaware formation near the 4200-foot level. No attempt has been made to introduce proration restrictions, although a movement is underway to interest operators in restricting new locations so that only one well to 20 or 40 acres will be drilled. The Pasotex Pipe Line Company transports the oil through pipe line to the El Paso refineries of Rio Grande Oil Company and Pasotex Petroleum Company.

An extension for the south end of the Wheat field has been scored by Miller-Burge & Healy's N. F. Chapman 1, which failed to produce after being shot in regular sandy lime formation at 4285-4325 feet, but flowed a 200-barrel head of oil when deepened to 4355 feet. This outpost well is located in the western corner of Section 71, block 1, W. & N. W. Ry. Survey, and is rated as a 25-barrel producer in its present status. The large flow of oil was made December 20 and represented an accumulation of fluid for nine days. A. R. Eppenauer et al's J. G. Allen 1-A, located in the south corner of the north quarter of Section 90, block 1, opened new territory on the north end of the field early in December, but failed to gain in production when shot. This well flowed an average of 255 barrels of pipe line oil during eight-day period ending 7 a. m. December 23, and ranks among the largest in the field. The California Company's Reagan-McIlvain 5, an inside location, was completed during the past week with an initial of 240 barrels daily after shot of 160 quarts at 4211-4312 feet. The latter showed only a small trace of oil prior to being shot, as frequently occurs in the proven section of the field.

Assignment of Central West Texas Leases Is Effected

Ranger, Texas.—Assignment of lease connections to be surrendered January 1 by Prairie Oil & Gas Company in Central West Texas to other crude purchasers has been nearly completed, according to John M. Gholson, chairman of the district proration committee. A few properties isolated from existing lines of other buyers in parts of Jack, Coleman and Callahan Counties, remain to be served, but the production involves only a small percentage of the output of the district.

In order to create market relief for these surrendered properties the Central West Texas district has been placed on a flat proration schedule, with no concessions made for large wells, while a difference in allowable output is made according to depths of producers. Wells producing above the 2000-foot level are allowed four barrels daily, and those producing between the 2000 and 3300-foot level receive a maximum outlet of eight barrels, while deep wells are limited to 14 barrels daily.

A new gas pool for northwestern Coleman County has been established by Prairie Oil & Gas Company and McGahhey et al on the Thate farm rated at 5,250,000 feet daily from Cross Plains and at 1498-1500 feet. The well registered a rock pressure of 600 pounds. It is located in the northwest corner of the east 356 acres of Section 172, Mark Izod survey.

EAST CENTRAL TEXAS FIELDS

Second Rusk County Producer Makes Area Big Threat

TYLER, Texas.—Rusk County contributed a second threat for the greater Mid-Continent crude price structure on the morning of December 28 by yielding one of the largest wildcat producers uncovered within the borders of the United States. This new strike was made by Ed. W. Bateman, Fort Worth operator, and associates, in the northwestern part of the county with an initial yield of about 900 barrels of 38.3 gravity oil per hour, based on 40-minute open flow gauge, from Woodbine sand formation at 3640-50 feet. The gas flow accompanying the oil was rated at about 5,000,000 cubic feet daily. Absence of tankage facilities necessitated the closing of the valves after the brief test, and no further gauges will be made for several days. In the meantime several major companies are starting negotiations for the purchase of the well and the drilling block of about 1400 acres. It is located about 10 miles north of the Joiner field.

Two important high gravity oil fields are now assured for Rusk County, as the Joiner field, which was uncovered October 3, is advancing into an active development program with five wells completed or in process of going on production. Presence of several score separate lease owners with a desire to develop their respective holdings regardless of the congested condition of the crude market offers little hope for an orderly drilling campaign in the Joiner field. In contrast to this condition the new field has comparatively few separate lease owners, and with reasonable co-operation could be governed by a restricted drilling and production program. It is quite probable that Bateman and associates will elect to sell their holdings to the highest bidder.

Revise Ideas on Geology

Complete revision of geological data on Rusk County will be in order as result of these two oil discoveries within a 90-day period having found favorable Woodbine sand conditions, while heretofore it had been generally accepted that thickness of the sand was not sufficient to harbor any appreciable volume of oil and gas. Such contentions were based on logs of old dry holes drilled in the county some years previous.

The Bateman producer is located on the Lou D. Crim 628-acre farm, being 486 feet from the north and 3080 feet from the east lines of the tract, E. G. Sevier survey, Abstract 697, or about 3½ miles southwest of Kilgore. A branch line of the Missouri Pacific Railroad crosses the Crim farm within a half mile to the west of the producer, thus eliminating transportation problems. This same railroad skirts the northeast edge of the Joiner field in following its winding route over Central East Texas.

Discovery of the Joiner area early in October induced Bateman and associates to try a hand in wildcatting Rusk County, and the geological work on the Crim location was performed by P. S. Groginski, Fort Worth geologist. A rotary outfit owned by Bateman et al was installed late in October, with William E. Cain in charge of field operations.

A condensed log of the key formations encountered by Crim follows, with a surface elevation of 403 feet:

1830-1868 Navarro
2275-.... Saratoga
2350-.... Taylor
2608-3014 Pecan
3480-3552 Austin
3640-3650 Woodbine

Prospects of an oil producer became evident December 16 when an oil saturated sand and lime was cored at 3638-50 feet. Operations were halted at this depth to set a string of 6⅝-inch pipe at 3636 feet. New casing was purchased for the test, and cemented at the above depth. The plug was drilled late last week, and swabbing began a few

Proration Chairman Points Out Dangers of Over Development In New Areas

Commenting on the bringing in of the Bateman-Crim test in Rusk County, Robert R. Penn, Dallas, chairman of the Texas central proration committee and vice-president of production, the American Petroleum Institute, said that the many landowners in the new territory indicated by the Bateman-Crim, Deep Rock-Ashby, and Joiner discovery wells, who have no previous experience in production anywhere, "must be careful or their experience as operators may prove disastrous."

Discussing Texas proration and the possible affect the new discoveries will have upon its successful progress, Mr. Penn pointed out that the present reduction to 700,000 barrels and the future possibility of further reduction depend upon the attitude of the operators in the recently discovered area. He said that the new area will undoubtedly have to be prorated, and that operators in this new area, in fact, were entitled to the benefits of proration. "Therefore," he said, "it behooves the operators of East Texas, the land and royalty owners, the banks, the merchants, the oil well supply houses and all of the various adjuncts of the oil business to see to it in advance that a rational development program is worked out for the new field or fields of East Texas."

Calling to memory the experience at Spindle Top when oil was wasted and much was sold at very low prices, Mr. Penn suggested to owners of small leases in East Texas, "that they would do well to take up seriously with their neighbors the matter of unitizing a number of these small tracts under common ownership so as to prevent the drilling of many wells more than are necessary to produce the oil that underlies them.

"If a rational development takes place," he continued, "the major pipe line companies could afford to take steps to provide a fair outlet for the area and at posted prices, but if the operators enter into a wild and reckless drilling campaign the problem will be greatly exaggerated and there will be many wells that will never pay for themselves even though the area might develop into a very rich one."

He concluded by reminding these operators that his statement was intended as a warning; "that curtailment or proration can no more be escaped in this new East Texas area than in the already developed major pools of Texas, Oklahoma, New Mexico and California, and the operator who rushes wildly into a drilling campaign counting upon a big flush production sold at low prices is due for a disappointment."

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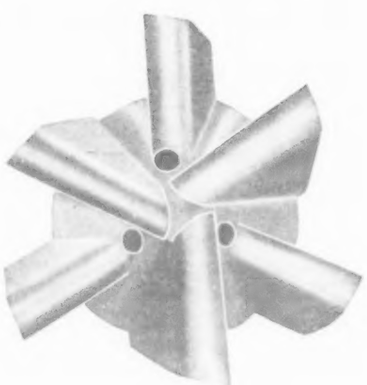

End View

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hours before noon December 28, with the flow of oil following promptly. Only light weight fittings were available, and some uneasiness was shown by visitors at the well December 29 as to whether these would keep the well under control, especially since leaks had developed around the master gate. No tubing was used.

Territory to the south of the Joiner field contributed a dry hole during the past week when C. Rosenfield et al's E. L. Pinkston 1, M. V. Pena Survey, showed only one foot of oil saturation in sand at 3527-41 feet, and operations were halted in Georgetown lime at 3590-3602 feet. Drilling of cement plug from Tex Lloyd et al's Camp (five-acre) 1, located a short distance northwest of the Joiner discovery well, was slated to begin early this week. Casing was cemented at 3525 feet. H. L. Hunt et al's Daisy Bradford 1, which was reported last week as being a 50-barrel pumper from broken sand at 3542-96 feet, total depth 3650 feet, pulled tubing to swab and clean out. This well is credited with having swabbed 130 barrels in 3½ hours, then fluid rose to the half way point the following 24 hours. Anderson-Williamson County Properities' Bradford 1 swabbed 265 barrels during three-day period ending December 22 at a total depth of 3592 feet, then shut down for the holidays.

Restoration of Frank Foster-Deep Rock Oil Company et al's C. D. Ashby 1, which extended the Joiner field more than one mile to the west on December 13 with an initial output of 3000 barrels oil, to regular production will take place late this week. The Inland Waterways Pipe Line Company is winding up construction work on its four-inch gathering system that will handle oil from the above producer to a 10-car capacity rack on the Missouri Pacific Railroad.

Reports covering operations and tests about to get started in the Joiner area continue to gain in volume. The development program, which is largely sponsored by independent companies and operators, will be well underway in 10 days.

Entrance of supply companies into Rusk County with branch stores is now under consideration, but selection of a site that can be made to serve both areas has proven to be a difficult task.

Texas A. and M. Donated Equipment For Study and Experiment

College Station, Texas.—Several oil field equipment manufacturers have donated specimens of their products for instruction and experimental purposes in the petroleum production engineering department of Texas Agricultural & Mechanical College.

Through Richard R. Bloss, International Derrick & Equipment Company has sent to J. Barry Joyce, head of the mentioned department, a complete, full-sized, California type, all steel, safety, rotary drilling derrick, which is being erected on the campus.

Carnegie Steel Company has sent a complete all steel standard drilling rig, with bandwheel, walking beam and all accessories, in miniature, with the derrick nine feet high.

Southern Yellow Pine Association is sending a complete standard rig, built of long-leaf yellow pine, complete, in miniature.

Harry Pennington has sent an electric motor driven, rotary type gas compressor with cooling coils, gauges and other accessories for use in making solubility determinations as a basis for asserting control over gas-oil ratios.

There are nearly 200 students enrolled this year in Mr. Joyce's department, and the first graduates will emerge in the summer of 1932.

Van Well Drilled to Completion In Record Time

TYLER, Texas.—An example of the fast drilling time possible in the Van field is offered by Shell Petroleum Corporation's J. T. Taylor 4, which cemented a string of seven-inch casing on top of the Woodbine sand horizon at 2641 feet in a total elapsed period of 8 1/3 days, with about 6½ days consumed by actual drilling time. This well was completed December 28 at a total depth of 2942 feet after swabbing in through 2½-inch tubing with an initial output of 105 barrels per hour with 11/16-inch choke. The elapsed period from time of spudding to flowing the oil into lease tankage involved about 16 days, while net drilling and operating time was only 10½ days.

Schroeder Drilling Company, Dallas, contracted to drill Taylor 4, which is located in the Carroll district and outside the unit block, and the crew started digging rathole at noon December 11. The usual string of 10-inch surface pipe was set and cemented at 2:30 p.m., December 12, with six hours shutdown time charged up because of delay in getting pipe delivered. Drilling of this cement plug began at noon December 14. At 8 p.m., December 19, the crew had drilled to 2641 feet and finished cementing a string of seven-inch casing. The crew carried the test to the latter stage in an elapsed period of 128 hours from the time that drilling out cement plug in surface pipe began. Time was also consumed in making the usual tests for straightness of the hole. It was only one degree off vertical at the 2000-foot level, but in drilling the hard chalk formation the drift increased to five degrees off vertical at the casing point. Drilling of plug in seven-inch casing began 1 a.m., December 26, and the well was swabbed in at 2942 feet at 11 a.m., December 28.

Progress made in placing Taylor 4 on the producing list could be easily repeated on most of the productive leases in the Van field. However, rigid enforcement of proration restrictions, and almost complete absence of competitive drilling has resulted in about twice the elapsed drilling time being consumed on the average completion for the field. Development of unitized acreage, which is conducted by Pure Oil Company, requires the coring of the oil sand formation and also portions of the chalk formations. Such procedure incurs delays that are avoided by operators on non-unitized acreage.

Five other completions were added to the Van field during the past week, including four on unitized leases of Pure Oil Company. This company also brought in its M. F. Shirley 3, located in the Carrell district, with an estimated initial output of 6000 barrels daily at 2938 feet. Van field had 12 active tests early this week, while rotary equipment was being installed on two additional locations. The only new location was assigned Humble Oil & Refining Company and Gulf Production Company's L. V. Freeman (31.5-ac. lease) 2, located in the northwest corner of the lease and in the John Walling Survey. This test is the second to be drilled on the above joint owners' unitized acreage, and it is apparently the only lease that they contributed to the block that will produce.

Movement of crude from Van field via Humble Pipe Line Company's 10-inch trunk line began December 27, although the line was completed December 13. This line extends to the Louisiana border, where connection is made with the trunk line system of Standard Pipe Line Company of Louisiana, and the oil will go to the 100,000-barrel capacity plant of Standard Oil Company of Louisiana at Baton Rouge.

The March of « « «
Engineering Progress

December Issues of the Oil Weekly carried special articles on Engineering Problems as follows:

Hook-up to Handle Sand Blast at Oklahoma City
By Floyd Swindell, Staff Writer

Mexico's Future Petroleum Possibilities—Neuvo Leon and Tamaulipas Have Many Prospective Oil Structures
By Jack Logan, Staff Writer

Union Oil Develops Portable Outfit for Shallow Drilling
By Brad Mills, Staff Writer

Mining Accounts for Third of German Oil Output
By Roy E. Leigh, Associate Editor

The Mud Problem in Rotary Drilling
By W. A. Sawdon, Petroleum Engineer

Characteristics Which Determine the Value of Oil Zones
By George O. Suman, Petroleum Engineer

Mexico's Future Petroleum Possibilities—Glenrose Lime Promises Petroleum Production in Coahuila
By Jack Logan, Staff Writer

Barometer Shows Status of Supply and Demand Factors
By H. J. Struth, Staff Economist

Haynesville Repressuring Project Proves Successful
By W. W. Moore, Staff Correspondent

Mexico's Future Petroleum Possibilities—Petroleum Laws, Economics and Operating Costs
By Jack Logan, Staff Writer

Gas Lift Checks Decline, Lowers Cost at Elwood
By Brad Mills, Staff Writer

Oklahoma City Loads and Soil Demand Special Engineering on Derrick Foundations
By I. P. Bingham, Associate Professor of Petroleum Engineering University of Oklahoma

Screen Set Before Cementing of Oil String in Gulf Coast

Mexico's Future Petroleum Possibilities—Monterrey—New Oil Metropolis of Mexico
By Jack Logan, Staff Writer

January issues of *The* OIL WEEKLY will present among other features a complete history of development in the Hobbs area together with geological and engineering data and a special insert map.

Maintenance of pressure at Raccoon Bend in the Gulf Coast district is one of the more important engineering projects of this kind in the country. A complete description of the field, plant and engineering practice will be discussed.

Kettleman Hills, a 1,000,000,000 barrel potential supply and yet little has been written of the geology or operating problems. A January issue will give a complete picture of this most important field.

New Mexico and Rocky Mountain Area

Rocky Mountain Area to Enjoy Gas Development in 1931

CASPER, Wyo.—Considerable activity is assured in natural gas development in the Rocky Mountain states in 1931, especially in Wyoming and Montana. Interest in Wyoming at this time centers largely in the outcome of the hearing to be held in Cheyenne on January 8 when a hearing will be held before the Wyoming Public Utilities Commission on the application of North Central Gas Company to lay gas lines from the Muskrat field west of Casper to Laramie, Wyoming, and Alliance, Nebraska.

The proposed line would consist of about 200 miles of 12, 10 and eight-inch pipe. A number of towns in Eastern Wyoming would be served with gas, including Douglas, Glendo, Wheatland, Guernsey and Torrington. The new company is closely affiliated with New York Oil Company, having practically the same officials. It is capitalized at 200,000 shares no par value.

Natural gas from several fields in Northern Wyoming will find an enlarged market in 1931 through the extension of Billings Gas Company and Gallatin Gas Company's lines to a number of towns in Southern Montana. These two companies are subsidiaries of Ohio Oil Company. Billings Gas Company has distributing systems in Laurel and Billings, getting its supply from Elk Basin in Wyoming and Dry Creek in Montana. This system would be extended to Bozeman, Lewistown and other points in Southern Montana.

Several other interests and companies are bidding for gas markets in other towns in Montana. A major distributing system is planned for Helena, Butte and Anaconda. This system will be constructed by Montana-Power Company. Moody-Seagraves interests are also active bidders for franchises in several towns in central Montana, including Livingston and Missoula. Several of the Montana systems will be furnished largely with gas from Garland, Byron, Oregon Basin and perhaps Pilot Butte in Wyoming. Natural gas systems in the Rocky Mountain region already assured for 1931 will call for an expenditure of not less than $20,000,000 and will furnish considerable employment to labor. Work will start on several of the new systems in the early springtime.

Elkhorn Oil Company well, drilled by Circle Oil Company, has been put on production and is pumping around 50 barrels daily. The new well is on a 320-acre lease in the La Barge field in southwestern Wyoming. Elkhorn Oil Company has a permit of 2480 acres in this field and the new well is on a half section of land leased to Circle Oil Company, the same being the N½ Section 17-27n-113w. The oil is of very high gravity, testing 46.4 on the Baume scale.

Geary Dome Test Progressing

Drilling in the test of Midwest Refining Company and associated interests on the Geary Dome, 12 miles east of Casper, is making good progress, with the bit having passed through several strata of bentonite. The hole is now bottomed below 4600 feet, with the first Wall Creek sand as the first objective, which should be found between 4800 and 4900 feet. This sand should be reached within the next several days. Core drilling continues on North Geary or Middle dome. While a location for a second test has been made on the Midway structure, 12 miles north of Casper, it is believed that no drilling will be done here until early next spring.

President Hoover's committee on conservation and administration of the public domain is expected to make its final report early next month. The committee has already made two partial reports. It is composed of 22 members, with James R. Garfield, former secretary of the interior, as its chairman. Mary Roberts Rinehart, noted woman writer, is the only woman on the committee. There are 11 members on the committee from the western public lands states.

Wildcat operations in central Wyoming continue interesting. Phillips Petroleum Company of Bartlesville, Oklahoma, is core drilling near Shawnee in eastern Wyoming and has also taken over the Manville structure, eight miles northwest of Manville. This company has taken over about 30,000 acres from the R. G. Taylor interests of Denver and it is expected will drill several tests, starting some time next spring. Summit Oil Company is drilling around 1000 feet on the Trevitt ranch northwest of Casper. In the Dutton Basin district in Fremont county, Ward Oil & Gas Company had a showing of oil along with some gas at 250 feet. The first Wall Creek sand is expected around 2500 feet.

Plan Unit Operation

Operators and lease owners in the Sand Draw field in Fremont County are considering a plan for unit operation submitted to them by the Department of the Interior. Before becoming effective an agreement will have to be signed by all interests. Under the new plan each party to the agreement will receive a percentage of the income from the field proportionate to his holdings. The percentage of federal owned land in the field is about 65, and totals approximately 2520 acres. One company has been operating in the field under contracts with a half dozen other interested parties.

At the hearing held in Riverton, Wyoming, December 18, 19, 20, a mass of evidence was submitted in favor of the proposition for a railroad branch line by either the Burlington Railway or Northwestern Railway into the Riverton reclamation project. A further hearing will be held in Washington January 27 before the Interstate Commerce Commission.

At the Riverton hearing, Continental Oil Company stated that if such a railroad line was constructed it would lay a pipe line from the Maverick Springs oil field, a distance of 25 miles, and guarantee oil shipments over the new line of approximately 2500 barrels daily.

Average daily pipe line runs from the various oil fields in the Rocky Mountain region for the last week totaled 101,320 barrels. This was a decrease of 1215 barrels when compared with the record of the average daily runs for the preceding week.

Argo Oil Company has completed its well in the Lance Creek field in eastern Wyoming at 3334 feet. It has a total daily open flow of gas of about 5,000,000 cubic feet, of which one-half comes from the first bench of the Dakota sand and one-half from the lower bench.

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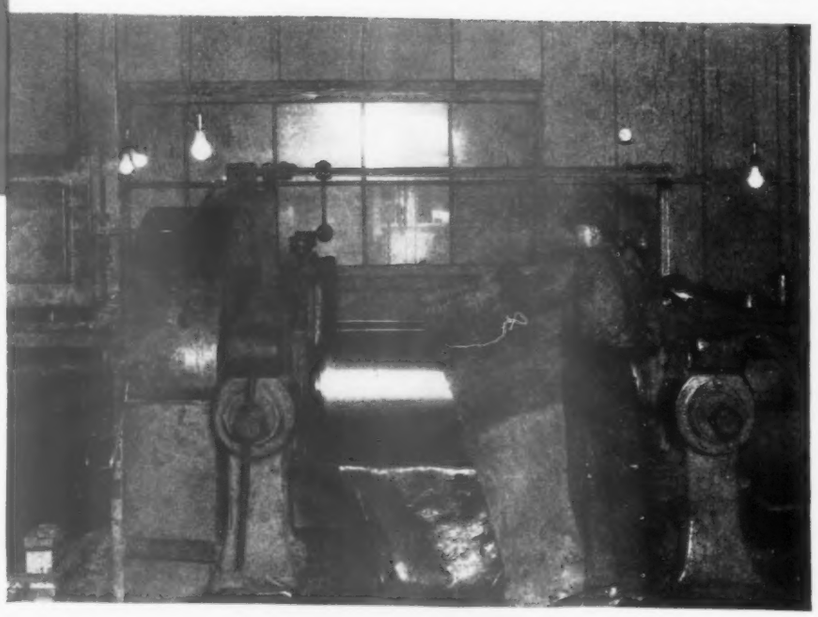
A view in the Bettis Factory, processing the rubber.



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Gulf Coast and South Texas Fields

JACK LOGAN, *Staff Representative, Houston, Texas*

White Point Field Test Now Drilling Deeper

HOUSTON.—Saxet Oil Company is drilling deeper in Rachal 17 at White Point field, San Patricio County, after killing the oil and gas flow from 4878-4892 feet, and on December 29 was in shale and lime at 5674 feet. This well, located near the center of the proven gas area and about at the top of the structure, has the distinction of being the discovery oil well of the White Point field, although the first gas was found in the area more than a decade ago, while the field has been producing commercially for several years.

Rachal 17 was yielding around 85 barrels of high gravity oil daily along with about 20,000,000 cubic feet of gas when it was killed to deepen, and it had been producing oil for several weeks at that time. The decision to kill the oil and gas flow was made in the interest of conservation, the amount of gas accompanying the oil production having been excessive. This well came in originally on November 6, 1930, as a gas producer with 2100 pounds pressure but a few days later began spraying oil at estimated rate of 25 to 100 barrels daily. The oil flow subsequently increased to approximately 125 barrels daily, with tubing in the well.

The fact that the oil production is not great enough to justify the required volume of accompanying gas is attributed to the location of the well being high on structure, and it is believed that the same sand will prove productive of oil on commercial basis if encountered lower on the structure. Deepening of Rachal 17 in the meantime will give information on sands below the one already tapped.

It is regarded as possible that the oil sand in Rachal 17 may correspond with the 3700-foot oil sand at Refugio, but the relation of the sands in the two areas is not yet definitely known. At any rate, the fact that there are several producing horizons below the 3700-foot sand at Refugio gives rise to hope that lower sands of importance will also be found below the known oil sand at White Point. Aside from the 3700-foot sand at Refugio, there are oil horizons in that field at 5500 feet, 5800 feet and 6500 feet.

Possibilities for oil in the White Point area are of further interest in light of the fact that there is one oil producing well a few miles southward, across Nueces Bay, in the Saxet gas field, Nueces County. That oil well is also a Saxet Oil Company property. It is Dunn 6, which came in August 16, 1930, flowing 750 barrels of fluid, about 50 per cent oil, from 4386 feet. It was the discovery oil well of the Saxet field, which had previously been established as a commercial gas field, and which has around a dozen completed gas wells within its limits. Like the discovery oil well at White Point, the Saxet field oil well is at the center of present proven gas area. On December 29 Dunn 6 flowed 45 barrels net oil along with approximately 900 barrels of salt water. The crude is said to bear considerable resemblance to the 3700-foot Refugio oil.

Saxet Oil Company, which incidentally is an operator at Refugio, has under way work of correlating sands in the White Point-Saxet field area with those of Refugio, but the work has not been completed. Work that has been done, however, indicates that the sands which are found productive at Refugio would occur in the Saxet field at the following depths:

Refugio	Saxet Field
3600-3700	4600-4700
5300-5700	5900-6300
5800-5900	6400-6500
6300-6500	6900-7100

Completes Large Gas Well in Bloomington Area

Houston.—Owning the gas rights on the property of Lion Oil Refining Company, Union Producing Company has plugged back and completed McFadden 2 in the Bloomington area, Victoria County, as a 35,000,000-foot gas well, showing 1275 pounds pressure through a one-quarter inch choke, in the 3760-foot gas sand. The well had originally been drilled to 6454 feet.

This is the second completed gas well of the area. It is 660 feet due east of Lion Oil Refining Company's McFadden 1, discovery well, M. Traviesa Survey, four miles southwest of Bloomington, which came in the latter part of June, 1930, testing 35,000,000 cubic feet of wet gas at 3743-49 feet. These two Bloomington wells are connected to United Gas Company's natural gas trunk line from White Point and Refugio to Houston.

McFadden 2, also started originally by Lion Oil Refining Company, found the same gas horizon but was carried lower as a deep test. It had a sand with slight show of gas at 4040 feet; tested salt water with slight show of oil at 5310-20 feet; tested salt water at 6050 feet; and was finally plugged back after drill stem was stuck at 6454 feet.

Aside from the two above tests, there have been two others since completion of the discovery well, but both were completed as failures. Houston Oil Company's McFadden 1, located 1¼ miles south of the discovery well, just out of the southeast corner of the C. L. Mann Survey, tested salt water at 3770-79 feet, and was abandoned at 4640 feet. The Texas Company's McFadden 1, located 4000 varas west of the discovery well in the Hannibal Bonney Survey, tested salt water and slight show of gas at 3710-20 feet; tested salt water at 3940 feet; on several drill stem tests between 5000 and 6000 feet tested dry or salt water, and was finally abandoned at 6685 feet after testing salt water at that horizon.

Barbers Hill Well Penetrates 1888 Feet of Salt

Houston.—Establishing a new record for great thickness of salt penetrated in the field, Yount Lee Oil Company's Chambers County Agricultural Association 17 has given further indication that Barbers Hill dome, Chambers County, has the general shape of a huge ice cream cone—instead of conforming with the formerly popular conceptiton of all salt domes as being great truncated cones, larger in diameter at the base than at the top. (For

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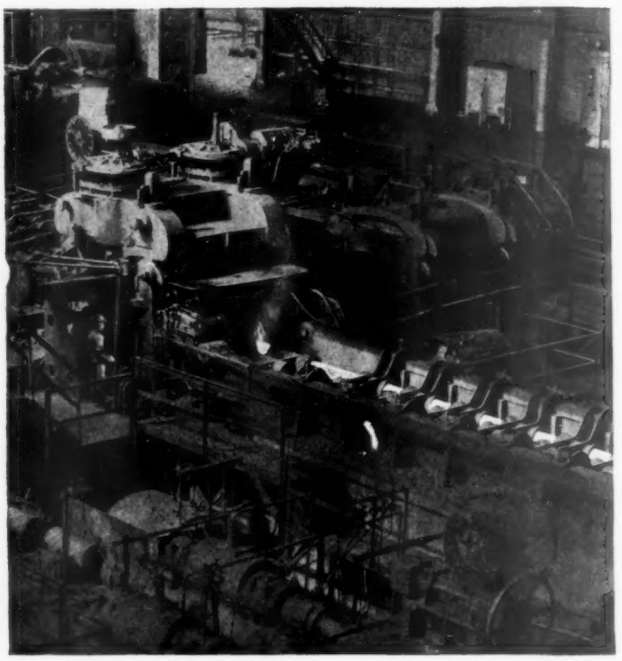
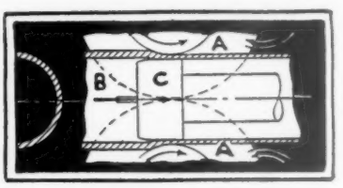
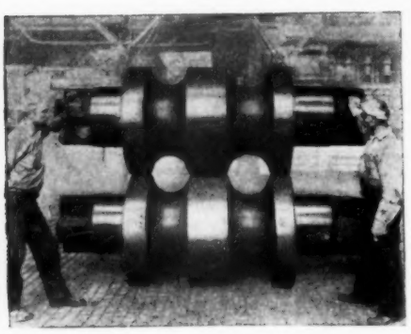


The picture shows one of the powerful J & L plug mills, the largest and heaviest in existence.

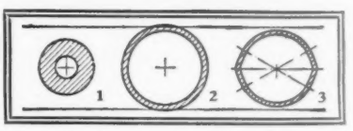
FACILITIES of J & L for making Seamless Casing, Tubing and Drill Pipe of highest quality are unsurpassed. For instance, J & L employs the heaviest plug mills in existence for producing all sizes of seamless from $2\frac{3}{8}$" O.D. to $13\frac{3}{8}$" O.D. By using this extra heavy equipment J & L has reduced detrimental vibration to a minimum, and has obtained as nearly perfect control as possible over an operation highly important to making seamless of superior quality. In the plug mill a denser steel structure and the correct weight per foot are obtained as the tube is rolled to approximately the exact wall thickness. The more thoroughly the plug mill does its work the greater will be the endurance and dependability of the finished pipe.



Sketch of plug mill operation in seamless manufacture. "A" are the rolls, "B" is the tube, and "C" is the plug over which the tube is rolled.



The picture at the left indicates the giant size of the rolls employed in the J & L Seamless Pipe plug mills.



Development of cross-section of J & L Seamless Pipe: 1. After first piercing; 2. After second piercing; 3. After plug mill rolling.

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detailed discussion of the "overhanging" or "coning" of the salt at Barbers Hill see special feature article in THE OIL WEEKLY of October 17, 1930.)

The above mentioned well of Yount-Lee Oil Company is located on the south flank of the dome. It encountered the top of the salt at 1453 feet and continued to drill salt the next 1888 feet, passing back into sedimentary formation at 3341 feet.

While this well establishes a new record in amount of salt drilled through, there are other records nearly as high, including nearly as great thicknesses of salt on the north and the northeast flanks. On the north flank Mills Bennett Production Company's Barber 3 went through 1641 feet of salt, from 1619 to 3131 feet, and it subsequently came in as a 1400-barrel well at 5147 feet. The same company's nearby test now drilling, Barber B-1, penetrated 1671 feet of salt, from 1415 to 3086 feet. On the northeast flank of the dome Humphreys Corporation's L. E. Fitzgerald 1, which formerly held the record that has been taken by the Yount-Lee well, drilled 1821 feet of salt, from 1424 to 3245 feet. On the west flank of the Barbers Hill dome similar overhanging of cap rock and salt are also known to exist, although the information is based on only a few wells, that flank having been explored only to limited extent as yet.

During the past week there were two completions at Barbers Hill—both abandonments. Humble Oil & Refining Company's Myers Fee 6 on the south flank, which had trouble setting screen at 6602 feet, has finally been abandoned; and Humphreys Corporation's E. W. Barber B-1 on the north flank, drilled originally to 6793 feet, but later sidetracked around 4000 feet and drilled to 4267 feet, has been abandoned at that depth.

Lee County Wildcat Drilling Below 1800 Feet

Houston.—A. H. Wheeler reports that his Lee County wildcat, No. 1 in the Hiram Donahue Survey, six miles south of the Chapman field of Williamson County and about seven miles west of the town of Lexington, is drilling below 1800 feet, and that it encountered a hard lime rock similar to that found above the serpentine in the Chapman field. He anticipated an oil showing in the well some time this week.

Operators Lease Extensively Over Large Area in Lavaca County

Houston.—Belief of geologists that the territory south and east of Yoakum, Texas, in Lavaca County will prove productive of oil has led many of the major oil companies and various independent operators to buy leases over a wide area in that district. This buying has continued over a period of several years, so that now practically every acre of land has been leased.

Geophysical crews of some of the larger concerns have been active in the territory during the last few months. Considerable core drilling has been done and a few moderately deep tests have been made, indications having been promising enough to warrant the location of two deep tests. J. Kendricks et al are drilling Reeves 1 at 4040 feet in rock without favorable showings having been encountered during the drilling of the test. This test is located in the J. A. Heuser Survey, 1860 feet from the west line and 500 feet north of the southwest corner of Reeves 243-acre tract. The other deep test, Cranfill-Reynolds Company's Hermes 1, is located in the William Ryan Survey, 150 feet from the north line and 150 feet from the east line of the 83-1/3-acre tract. Steel derrick has been built and the operators are now moving in machinery.

Lease holders and royalty owners in this territory include: Humble Oil & Refining Company, The Texas Company, Gulf Production Company, Shell Petroleum Corporation, Sun Oil Company, Magnolia Petroleum Company, Cosden Oil Company, Barnsdall Oil Corporation, T. P. Lee, Empire Gas & Fuel Company, Cranfill-Reynolds Company, Simms Oil Company, McElreath and Suggest, Continental Oil Company, Smith-Clark Oil Company, Texas & Pacific Coal & Oil Company, and Producers and Refiners Corporation. Other concerns holding leases include: Snowden and McSweeney, Pure Oil Company, Geo. F. Getty, Vacuum Oil Company, James House Bute, Zoch Interests, Sinclair Oil Company, Midkansas Oil & Gas Company, Dan Harrison, and Texas Oil Company.

Abandons Terrebonne Parish Test

Houston.—The Texas Company has abandoned its fourth test of Four Isle Bayou dome, Terrebonne Parish, Louisiana, the test being designated as Louisiana Land & Exploration Company Four Isle 4, and located along the west flank of the dome 3054 feet north and 259 feet west of the southeast corner of Section 22-21s-16e. Drill stem was stuck at 6933 feet, and the well has been abandoned at that depth. It is the deepest test of the four drilled on the dome.

Two of the former tests were on top of the dome in Section 23, one finding top of the salt at 1388 feet and the other cap rock at 3700 feet; while another was on the northeast flank in Section 13, encountering salt at 4600 feet. No important oil or gas showings have been found.

Two Flank Wells Completed at North Dayton

Houston.—Two important flank tests were completed the past week on the north and west edges of North Dayton dome, Liberty County. Revealing that the dome extends as far north as Section 121, H. & T. C. Survey, Saxet Oil Company encountered salt at 5275 feet in Davis 2 and drilled the salt to 5382 feet, at which depth the test was abandoned.

The fact that the salt was found so far north establishes North Dayton as one of the largest salt domes in the Texas-Louisiana coastal region. It is 2½ miles from Davis 2, the north flank well, to the deep producing wells on the south flank in Section 125.

Although it encountered salt, Davis 2 revealed that the dome dips very rapidly in that area. Being in Section 121 slightly north of the north line of Section 120, Davis 2 is only 350 feet north of Harvey S. Smith's Davis 1, but the top of the salt was found 1400 feet lower in it than in Davis 1.

The west flank test referred to above is Harvey S. Smith et al's Kynerd 1, located in H. & T. C. Survey, Section 31. It was apparently too far off the dome, and having encountered neither oil or gas showings nor salt, the test was abandoned at 5700 feet.

On the south flank of North Dayton dome, where the only deep production of the field has been developed, three wells are being drilled. Harrison Oil Company's Quintette 4 is in oil showing sand at 3700 feet after plugging back and sidetracking the original hole which logged salt from 5000 to 6075 feet. Harrison & Abercrombie's Jones 1 was in oil and gas sand early this week at 3895 feet, and the same interests' Blewett 1 had set 12-inch casing at 1450 feet.

News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

Playa del Rey Field Decline About to Start

LOS ANGELES.—An analysis of the action of wells in the Playa del Rey field, new locations, average initial production and several other factors indicate that production is about to start a steady decline from a peak of around 45,000 barrels. The low initial yield, slow decline and possibility of extensions, however, could combine to hold the field output to some point near the present level for some time, and might even establish a new peak, but the chances are better than even that a peak has already been reached.

The field has been given much more publicity than it ordinarily would have received, due to the nature of development and the critical period during which development has taken place. The average initial production of the 140 producing wells has been so low that the field must be regarded as a second-rate producer, but the output represents an excess which has caused much trouble.

Average production of the 140 producing wells is about 320 barrels, but when it is considered that the average initial production was not so much higher, it will be seen that producers come in with a small flow from a low pressure zone and flatten out slowly. Only three wells in the field are producing more than 1000 barrels each. Drilling wells total 75, with new locations falling below the number of completions.

Lost Hills Well Tests Salt Water in Temblar

Bakersfield, Calif.—A large flow of salt water on a recent production test does not necessarily condemn the Temblor zone in the Lost Hills field, but the failure of Universal Consolidated Oil Company's No. 49 certainly has added a questionable aspect to the upper part of the formation in some parts of the field. Whether the failure was due to a faulty shutoff or water in the sand has not been determined, but the outcome of the second shutoff test should give a more definite clue. Drilling was stopped at 4911 feet in the oil sand and there is a possibility that the 9⅝-inch casing was cemented too high. The shutoff was attempted at 4872 feet. Lost Hills lies in line with Kettleman Hills and development of a large production of light oil would add to present curtailment problems.

North Belridge Temblor Zone Well Increases Yield

Bakersfield, Calif.—Belridge Oil Company's Fee 15, discovery well in the Temblor zone in the North Belridge field, has increased its flow to 4300 barrels of 45 gravity oil and 35,000,000 cubic feet of gas. Initial production was 2750 barrels.

As a result of this completion, more than a dozen wells have been started over a wide area. Belridge Oil Company has started four wells near its discovery completion, with other operators scattering projects over a large portion of the valley. General Petroleum Corporation's Berry 1, Section 30-28-21, should prove to be an important test of the Temblor, being located several miles from the discovery well.

Richfield Oil Company is coring ahead at 6125 feet in Belridge 1, located a mile and one-half from Belridge Oil Company's Fee 15. The Temblor zone was found around 5580 feet, but a subsequent shutoff test proved unsuccessful. The formation is running to hard brown shale and oil sand.

Rio Grande Oil Company's Garcia 1, Section 18-28-22, has been abandoned at 3630 feet. This test was a wildcat east of North Belridge and its failure in no way reflects on the value of the deep zones in the proven areas. The mechanical condition of the hole was the chief reason for the abandonment.

Companies in and near the North Belridge field, besides those previously mentioned, include Associated Oil Company, Ohio Oil Company, Shell Oil Company, Standard Oil Company, The Texas Company and Union Oil Company.

California Production Declines To 550,000 Barrels

LOS ANGELES.—California production dropped to 555,000 barrels at the end of present week, with still lower output probable. Average production for the week was considerably above the minimum at the end of the period, but dropped sharply below the record of the previous week. The inauguration of the 500,000-barrel allowable was followed by a greater drop than was anticipated during such a short period, although there is doubt whether the base allotment will be reached.

At the end of the week, the fields under the supervision of H. P. Grimm showed a total production of 330,500 barrels, as against an allowable of 312,000 barrels. This was an excess of only 18,500 barrels. Fields under the supervision of Neal Anderson showed a production of 227,000 barrels, as against an allowable of 188,000 barrels. Included in this list, however, is Playa del Rey, which has not been a party to the curtailment agreement.

Production at Santa Fe Springs tumbled to 74,000 barrels, as against an allowable of 65,000 barrels. This reduction was brought about in the face of opposition from a few operators and represents a drop of 20,000 barrels over the average production of the previous week. The average production for the present week also exceeds the 74,000-barrel minimum reached at the end of the period.

Elwood production has been reversed and is being brought down to the base allowable, following a spree of overproduction. This field should cause little trouble in the future. The excesses may even be made up and the record of the field restored.

Long Beach production had not been brought down to the desired figure, remaining just below 100,000 barrels, but with so many small operators and several good completions, the umpire has been wrestling with problems not prevalent in many of the more settled fields. A lower output will be

reached and some figure near the allowable recorded within the next month, if the umpire's plans are carried out.

Playa del Rey has been slow to heed the curtailment call and production remains about the same as the potential. A more aggressive policy will be pursued after January 1 and operators will be forced to come to some decision. The oil produced in this field is heavy and conservation will be necessary if the price structure is maintained. With an allowable of about 20,000 barrels and a production of 44,000 barrels, such an excess of heavy oil can not be ignored.

Thus far the large producing companies have carried the burden of additional cuts under the 500,000-barrel allotment. These same companies also shared most of the original proration burdens, and there is a possibility that they will become tired of shouldering the whole load and call for a showdown from small operators who have not been curtailing. If this is done and there is no response from the small operators, a lower price schedule is not improbable. The market will absorb only a certain amount of production and even the major companies will not curtail indefinitely while several operators are producing at a maximum rate.

If California can reduce its production to 540,000 barrels, stocks will be reduced some. An output of 500,000 barrels would allow a rapid reduction of stocks during the spring and summer months.

Failure of Huntington Beach Deep Test Disappointing

Huntington Beach, Calif.—Failure of Superior Oil Company's Fee 1, a deep well in the Huntington Beach field, on a recent production test proved disappointing to small operators who have maintained that the deep zones in this area should prove productive. The well was drilled to 7440 feet, and sand and shale cored below the top of the formation which first showed a cut looked favorable for commercial production.

A string of 6⅝-inch casing was cemented at 7440 feet, but the well was cleaned out only to 7200 feet for the swabbing test which showed salt water and a trace of oil. The customary excitement which attends a deep test was prevalent, but the outcome of the swabbing dampened the enthusiasm of most townlot operators.

The well has been shut down, but the 6⅝-inch casing probably will be recemented soon after the first of the year. A considerable pressure on the casing indicated that the formation carried enough life to make a producer, but there was no positive evidence that the sand carried oil in commercial quantities.

Standard of California Turns Service Stations to New Subsidiary

Los Angeles.—Standard Oil Company of California announced December 26 that all of its service stations are to be operated henceforth by Standard Stations, Inc., a corporation which the company has caused to be formed for this purpose. The capital of Standard Stations, Inc., consists of $1,000,000 preferred stock and $7,500,000 common stock. Standard Oil Company of California will receive common stock in exchange for its properties. Stations involved in the exchange are located in California, Washington, Oregon, Arizona and New Mexico.

Officers and directors of the new organization follow:

K. R. Kingsbury, president; R. K. Davies, executive vice-president; J. H. Tuttle, vice-president; H. T. Hays, director; J. H. MacGeregill, director; R. N. Aldrich, director; E. M. Stilwell, director and assistant treasurer; B. W. Letcher, secretary and treasurer; V. F. Palmer, assistant treasurer; and H. M. Whitely, assistant secretary.

Considerable Activity on Middle Dome Anticipated

Los Angeles.—Considerable activity on the Middle Dome at Kettleman Hills is anticipated, following the expiration of the agreement to stop all drilling in this part of the field. Petroleum Securities Company will drill a well on Section 30-23-19 if permission is obtained to develop this property. The Middle Dome is much smaller than the North Dome, probably embracing 3000 acres of productive leases, but there is a possibility that it may yield very large producers.

Of the 15 wells drilling on the North Dome, only two are making hole below the Temblor shutoff. These are Standard Oil Company's No. 29J-65, drilling at 7500 feet, and Petroleum Securities Company's Felix 2, coring at 7675 feet. The final water shutoff was made in the former with a string of nine-inch casing at 6880 feet, while the latter carries a string of 8⅝-inch at 6768 feet. Both of these wells are nearing completion. Standard Oil Company's No. 29J-65 is an offset to Superior Oil Company's Huffman 1, which produced a maximum of 15,000 barrels from a depth of 8323 feet.

Several wells now being drilled on fee land will be completed and placed on production if the two-unit plan of operation does not enter to check activity.

Gas Field for Coal Oil Point is Possibility

Santa Barbara, Calif.—Possibility that Bolsa Chica Oil Corporation's Augur 191-1, an important ocean wildcat off Coal Oil Point and about three miles from the Elwood field, may open up a gas field looms, following preliminary tests which have shown an extremely high pressure on the casing. This well is located on the end of a 900-foot pier and was the first attempt ever made to open up a new field outside the mean high tide line.

The Vaqueros zone was found at 4020 feet and a string of nine-inch run to test the formation below the shutoff. The hole was cleaned out to bottom and additional cores will be taken before an official production test is made. Heavier fittings have been installed for the test. A blowout at such a location might result in almost unlimited damage to fishing and shipping, and for this reason every precaution will be taken.

The More ranch nearby proved to be a high pressure gas area, while the Elwood field produces oil and little gas. Whether the Coal Oil Point structure will "take after" Elwood or the More ranch is right now a very important question.

Long Beach Again Most Active Field in California

Long Beach, Calif.—The Long Beach field, after running neck and neck with Playa del Rey for several weeks, has again become the most active field in the state, with more than 100 drilling projects. Although the Los Cerritos district completions have been much smaller than those recorded during the early fall months, this area is still active and will be responsible for many new producers. The south slope has taken first rank in the size of completions, this long-neglected sector having revealed a uniformity which exceeded the expectations of the operators themselves. Davis Investment Company's No. 17, completed a week ago with an initial production of 1700 barrels, has

shown only a small decline, while Republic Petroleum Company's No. 1, an 1100-barrel completion at 7250 feet, has also established a good record for this stage of deep development. New locations have not kept pace with completions, but enough producers have been killed for deepening to reduce the net loss of active drilling wells to a minimum.

McDuffie Elected President of Richfield Oil Company

Los Angeles.—William C. McDuffie, president of Pacific Western Oil Company and former head of the production department of the entire Royal Dutch-Shell group, has been elected president of Richfield Oil Company of California, succeeding C. M. Fuller, who resigned recently. McDuffie will remain president of Pacific Western Oil Company, but the two companies will remain strictly separate units.

Richfield Oil Company, however, has been taking up to 20,000 barrels daily of crude from Pacific Western Oil Company and will continue to purchase its production.

As head of the Royal Dutch-Shell production department, McDuffie became one of the outstanding field executives of the country.

New directors elected by Richfield Oil Company, in addition to McDuffie, were Harry J. Bauer, P. H. O'Neil, H. H. Cotton, John Treanor, and J. B. Loeb. J. A. Talbot remains as chairman of the board. Pressing bank loans have been renewed and the company placed on a more stable financial plane.

Fifth Annual Christmas Jinks Held December 23

Los Angeles.—The Fifth Annual Christmas Jinks of California Oil & Gas Association was held Tuesday noon, December 23, at the Biltmore Hotel, Los Angeles. The feature of the meeting was presentation of an original two-act play, entitled "It's a Great Racket." In the presentation, the oil man was shown as having descended from the bad racketeers of other lines. The play was written by W. H. Geis, head of the Wildcats, entertainment committee de luxe of the association.

Pure Secures Large Lease-Block

Los Angeles.—Pure Oil Company has obtained a lease on the Chowchilla ranch, comprising more than 42,000 acres and lying in Madera and Fresno Counties. This company has been active in the upper San Joaquin valley for some time and has leased nearly 100,000 acres over a wide area.

Abandons Edison Test

Bakersfield, Calif.—Petroleum Securities Company has abandoned Johnson-Moss 1, Section 14-29-29, a wildcat in the Edison district, at 4240 feet, following the coring of a hard gray sand which showed little promise. Several wells have been drilled in this district and some oil has been developed, but commercial production has not been obtained.

Abandons Bakersfield Test

Bakersfield, Calif.—H. A. Bardeen is abandoning Ramsey 1, Section 10-10-23, at 4355 feet. This well cut several interesting formations, but tests at 3555 feet and 4125 feet showed only water and traces of oil. The well was located in the Pattiway district and its abandonment will affect future development over a considerable area.

PURCHASERS SEEKING RELIEF FOR EASTERN OKLAHOMA-KANSAS

(*Continued from page 44*)

The position of Prairie Pipe Line Company, the carrier system, was given in a statement by W. F. Gates, president of the company, as follows:

"Prairie Pipe Line Company has received notice from Prairie Oil & Gas Company, the principal shipper of crude oil over its lines, that effective as of January 1, 1931, at 7 o'clock a. m. and until further notice, Prairie Oil & Gas Company will suspend the general purchase of crude oil upon the open market. In view of such notification, Prairie Pipe Line Company announces generally that it is a common carrier of crude petroleum oil under rules and regulations and schedules of rates filed with the Interstate Commerce Commission, that its lines are available for the use of all shippers that have a market and outlet for their oil, either by means of the use of the trunk lines of the company, or by the use of its gathering systems."

Although the situation in the older settled fields has occupied the prominent place in petroleum affairs of the Mid-Continent for the past week, the matter of setting up a lower proration schedule for the whole of Oklahoma moved far enough to come before the Oklahoma Corporation Commission Monday, December 29.

Although the general attitude of the industry is to support the present regulations with certain modifications, it was predicted that at least one major company would offer strenuous objection to its continuance. Considerable has been said during the past few weeks in attempts to sway public opinion one way or another on the proration question. One group of independent operators suggests removal of proration as an ultimate solution for the operators of small wells, while another group believes that only chaos would result from such action.

The Corporation Commission will consider a reduction in the allowable production for the state bringing the allowable for January down to 465,000 barrels daily, for February, 469,000 barrels daily, and for March, 470,000 barrels daily. One point included in the new petition will probably remove a considerable amount of the objection which has been expressed against the present regulation.

At this time, with a few exceptions where special hearings have been conducted, all wells making in excess of five barrels must limit production to 50 per cent of the excess over that amount. Strict application of this rule would work hardship on operators trying to produce wells making small amounts of oil and larger amounts of water. The new regulation, if adopted, will raise the allowable to 10 barrels per well for all Class A wells and a limitation of 50 per cent to the excess.

The question of a change in the methods of prorating the Oklahoma City pool was left as optional in the petition. A majority of operators in that pool favor a change from the time basis, which has been in effect since proration was first applied to the pool, to a percentage of potential, as applied in other flush pools of the state. A change to the percentage of potential plan probably will be effected on January 1, when the present agreement expires.

Deep Test Still Drilling

Bakersfield, Calif.—Shell Oil Company is coring ahead at 8850 feet in Williams 1, an important wildcat in the Semitropic district, with the formation running to hard gray sand. This is the deepest active drilling well in California and the second deepest ever drilled in Kern County.

Louisiana--Arkansas Field Notes

Get Large Gas Well in Shallow Bellevue Field

SHREVEPORT.—H. I. Morgan and Shreveport-El Dorado Pipe Line Company, who have been drilling for several months with varied success on the southwest flank of the shallow Bellevue field of Bossier Parish, getting failures and gassers with one oil well in a decidedly faulty upper Trinity formation, during the week ending December 27 apparently picked up a new sand stratum in the upper Trinity when they completed Kendricks B-11, NE NW Section 22-19-11, at total depth of 1840 feet in sand, the well gauging 27,144,000 cubic feet of gas with 960 pounds rock pressure. This sand was found below the oolitic lime of the upper Trinity and plans were immediately made to deepen one or more of the wells drilled to the oolitic lime.

Texas-Louisiana Pipe Line Company, a subsidiary of United Gas Company, which some months ago took over a block of several thousand acres in the northwest part of Caddo Parish, Louisiana, from R. W. Norton, has set seven-inch casing at 5102 feet in French 1, SW NW Section 34-23-16, total depth being 5157 feet in anhydrites. Plug will be drilled early in January. This test is 1800 feet east of the discovery well and their surface elevations are practically the same, French 1 having elevation of 230 feet. The same company's Wall 1, Section 33-23-16, is drilling lime and anhydrites at 4868 feet.

Prairie Oil & Gas Company, drilling a 5000-foot wildcat in northeast Claiborne Parish, is drilling ahead after setting nine-inch casing at 3918 feet in F. B. Shackelford 1, SE NE Section 30-23-5w, elevation being 226 feet. Anhydrites was topped at 3889 feet, in which formation the test was still drilling at 3945 feet late last week. In the same parish Louisiana Oil Refining Corporation, drilling a 4500-foot test in Langston 10, Section 19-21-7w, had to cement a cavity at 1663 feet.

Haynes Brothers, deepening Spell 2, SE NE Section 15-21-15, Pine Island field of Caddo Parish, tested an estimated 1,000,000 feet of gas at 3650 feet in the Glen Rose and then tested salt water with five feet below that level. Plans are now under way to continue the test to 3900 feet.

Complete Two Wildcat Gas Wells in Arkansas

Shreveport.—Three wildcat gas wells in widely scattered parts of Arkansas, two of which were completed as small commercial gas wells, held major interest in that state for the week ending December 27.

In Clay County, J. C. Jeffus, Trustee, completed Underwood 1, NW SE Section 4-20-8e, as a 1,500,000-foot gasser at the very shallow depth of 330 feet; 10-inch casing had been set at 303 feet. Underwood 2, a 60-foot north offset, is drilling below 282 feet.

A rank wildcat test in Johnson County, outside the gas field, in Section 14-10-24, was completed at 1250 feet by River Valley Development Company in Collier 1, SE SE Section 21-9n-25w. Total depth of hole was 1982 feet. The well gauged 1,500,000 feet.

On December 25 Red Bank Oil Company, which had completed Hamm 1, Section 33-10-26, a rank wildcat in Franklin County, as a 6,500,000-foot gasser at 3750 feet, later plugging back to 3050 feet, tested 8,000,000 feet of gas with 875 pounds of rock pressure in a sand from 3775-84 feet. However, the well is drilling ahead at last report being in a sandy shale at 3788 feet.

No new locations were announced in Arkansas during the last week.

Crew Making Torsion Balance Survey In Shelby County, East Texas

Shreveport.—A crew of torsion balance workers is now making a geophysical survey of a block of several thousand acres of land recently leased by Sloan Brothers in Shelby County, East Texas, in the general vicinity of Center, the county seat. Although Shelby County at present has but one drilling operation under way and has been the scene of many wildcat operations, there is still considerable interest being manifested in that county due to shows at various depths in many tests that have been drilled there. The present active operation in that county is Chaparral Oil Company's Holt 2, Matthew Moore Survey, which has just been cleaned out and is ready to resume drilling at 3097 feet. Drill stem which was hung in the hole was gone over with 6⅝-inch casing and both successfully pulled from the hole.

The next Trinity zone test for gas in the Bethany field of Panola County, East Texas, where there are now three upper Trinity gas producers, will probably be Texas-Louisiana Production Company's Baker 1, B. C. Jordan Survey, which late last week was drilling hard lime at 4300 feet.

Attempts to Extend Zwolle East Field Fail

Shreveport.—Three attempts to extend production in the south and southeast offshoots of the Zwolle east field ended in failures during the week ending December 27. Lyons and Neely's Cooper 1, NW SW Section 32-8-11, a mile northwest of the southeast extension of the field, was abandoned as a dry hole at 2500 feet. C. W. Robinson's Trammell 1, NE NE Section 5-7-11, a half mile northwest of the same part of the field, was abandoned as a dry hole at 2517 feet. Zwolle marl in this test was topped at 2241 feet and Zwolle chalk at 2317 feet, 6⅝-inch casing having been set at top of the marl.

In Section 1-7-12 north of the newly opened 1½-mile south extension of the Zwolle east field, W. M. Coates abandoned Sabine 1, as a dry hole at 2600 feet. In the same section R. L. Gay, Trustee's, Sabine A-1, SE NW of the section, gauged 72 barrels daily through two-inch tubing from 10 feet of broken Zwolle chalk, total depth being 2334 feet. Marl was topped at 2290 feet.

One new location and a workover comprised the total

News From Co

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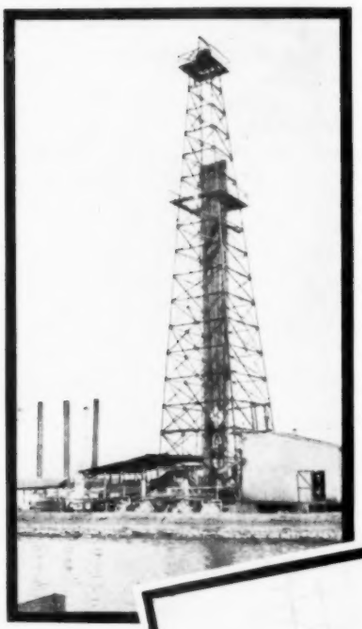
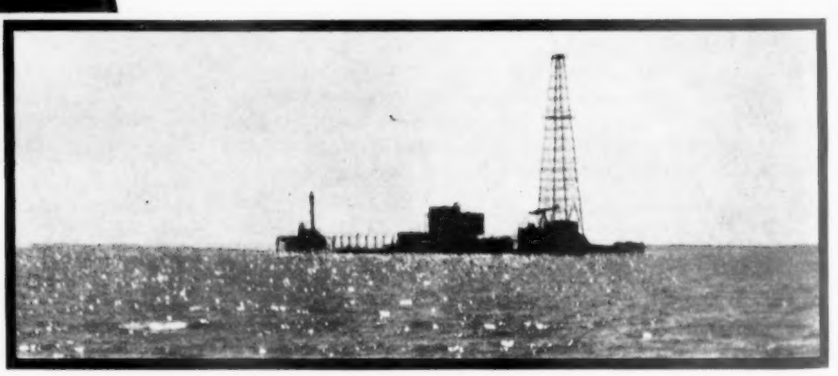
IDEAL-AJAX Performance



Well No. 5 on School Land 67

Rycade Well on the Atchafalaya Louisiana Coast



Texas Oil Co. well in the Gulf of Mexico

FROM this Well No. 5 on School Land 67 drilled by Galbreth Drilling Co. for the Sinclair Oil & Gas Co. at Oklahoma City to the Rycade well on the Atchafalaya Louisiana Coast . . . out to the Texas Oil Co. operations in the Gulf of Mexico, IDEAL-AJAX Roller Bearing Piston Valve Engines operating with the newest types of boiler with superheaters are establishing records never before dreamed of in oil well drilling.

No other power plant can give the dependable speed and horse power for the size of portable equipment that is now possible with IDEAL-AJAX Roller Bearing Piston Valve Engines used with the latest boilers equipped with superheaters.

For performance stories, ask the National Supply Man. For Engineering Data, address AJAX IRON WORKS, Corry, Pa.

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IN EVERY OIL FIELD

Under Unusual Conditions

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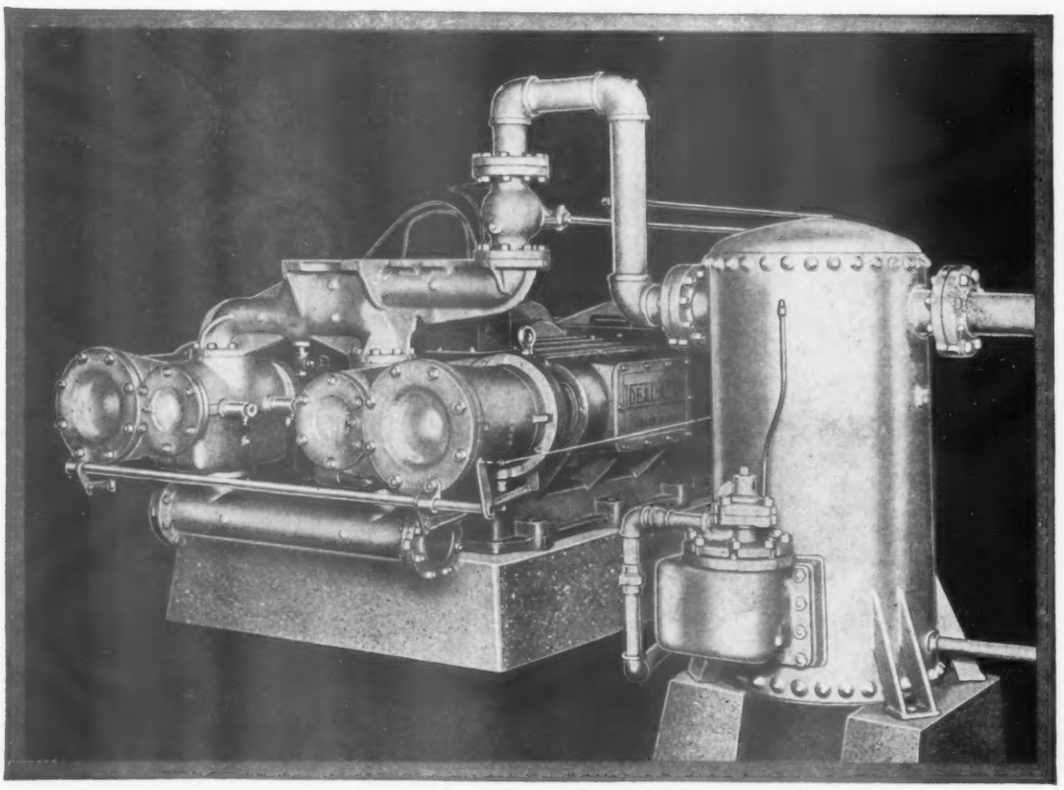
IDEAL-AJAX Roller Bearing Engines are built in both balanced slide valve and piston valve types. Roller Bearing Engines with balanced slide valves are recommended for use with low pressure saturated steam. Piston valve type engines are recommended for both high pressure saturated and superheated installations.



Standard equipment with both slide and piston valve types includes extra heavy steam separator receiver with automatic condensation trap.

IDEAL-AJAX

ROLLER BEARING
STEAM DRILLING ENGINES

of new operations launched for Zwolle during the week, although C. M. Talley and associates' Talley 1, Section 29-11-10, Natchitoches Parish, is in reality an effort to pick up the Zwolle formation. It is some 20 miles northeast of production in Zwolle. One new location was made in the Richland Parish gas field during the week.

Another test in the Bienville Parish wildcat area near Arcadia, where a wildcat showed 10 feet of oil at 2158 feet in the Nacatosh last summer, was added to the list of failures drilled since that time when Carter and Dobbs quit White 1, Section 9-18-6w, as a dry hole at total depth of 2262 feet. A wildcat in Bienville Parish being drilled by S. P. Borden and associates in Thomas 1, Section 27-16-9w, was drilled in hard lime at 4760 feet late last week.

Gulf Sells Gas Rights to 14,000 Acres in Jackson Area

JACKSON, Miss.—Sale of gas rights on over 14,000 acres of land in townships 5 and 6 north, ranges 1 and 2 east, in Hinds and Rankin Counties by Gulf Refining Company to United Production Corporation and Louisiana Gas & Fuel Company was announced here December 23. The consideration, while not officially announced, was probably between $500,000 and $600,000.

The acreage included only the gas rights on all the acreage held by the Gulf Refining Company in these four townships and ranges, including the leases in those areas recently taken over from Lion Oil Refining Company for a consideration of $26,000. The sale does not include gas rights on approximately 30,000 acres additional held by Gulf Refining Company in Mississippi outside those townships and ranges. Home Oil Producing Company which sold Gulf Refining Company, approximately 7000 acres, will pay an 80 per cent dividend on the strength of the sale, or $4 per share.

Control Half of Flow

The new purchases gives United Gas Company and subsidiaries control of over 525,000,000 cubic feet of gas or over half of the daily open flow capacity of approximately 1,000,000,000 feet daily from the 30 wells of the Jackson field. United Gas Company subsidiaries had previously closed contracts with several independents for furnishing gas, including wells owned by Love Petroleum Company, Feazel Oil & Gas Company, Pioneer Oil & Gas Company, Webster Oil & Gas Company and Love Production Company. Gas from these companies' wells is included in the open flow controlled by the United group.

The sale assures Jackson gas of an outlet of large magnitude as the United Gas group had recently acquired Southern Natural Gas Company's gas line extending from a point near here to Mobile, Alabama, with an extension being built from there to Pensacola, Florida. It is reported that a large power plant to use natural gas from this line is contemplated somewhere in the general vicinity of Mobile.

There are likely to be three outlets eventually for the gas from this field. It is generally believed here that C. R. Hoffer of El Dorado, Arkansas, who secured title to all the gas rights on the Jackson structure held by Pure Oil Company, obtained these holdings for Arkansas Natural Gas Corporation or one of the Cities Service Company's subsidiaries. Amerada Petroleum Company recently assigned its gas rights at the rate of $2 per acre to Hoffer, probably for the same ultimate owner.

The entry on a large scale into Mississippi of Missouri-Kansas Pipe Line Company with reports of a future pipe line to the Middle West would provide a third outlet for the Mississippi gas. Pocahontas Natural Gas Company, whose controlling stock is owned by the Missouri-Kansas group, has been organized and has opened offices here.

New Test Planned

This natural gas firm has had $75,000 placed in its hands for immediate development in Mississippi. It is reported that the first test it will drill will be in Smith County, South Central Mississippi, in the general vicinity of Laurel, on an 80,000-acre tract owned by Adams-Banks Lumber Company.

H. A. Patton is blocking about 14,000 acres in Sharkey County in the Mississippi delta north of Vicksburg, for the Missouri-Kansas group, it is believed. These leases are taken with the stipulation that a test be started within four months of December 15. This block includes some acreage turned back to The Texas Company two years ago after extensive torsion balance and magnetometer work was done on the block.

While Madison County, just north of Hinds County, lost one operation during the week ending December 27, it secured another. Mississippi Petroleum Company, Inc., has moved off the rig on Raymond 1, SW NW SW Section 32-7n-2e, abandoning the test in gumbo at total depth of 706 feet, where surface casing had been set. In SE SE Section 11-9n-1e, of the same county, Central Oil & Gas Company spudded in December 22 in Cameron 1, which is planned for a 4000-foot test. S. P. Borden of Shreveport and associates have materials on the ground for McIntosh 1, SW NE Section 5-8n-16w, Covington County, South Central Mississippi, in the same area where Mississippi Gulf Oil & Gas Company recently spudded in a well. Borden and his associates are reported to have 30,000 acres in their block.

North-Central Mississippi

Arkansas-Louisiana Pipe Line Company, drilling Moore 1, SE NW Section 2-15n-5e, Attala County, North Central Mississippi, probably will abandon this test in a gravel formation showing salt water at 3772 feet. A brown shale 150 feet thick was penetrated just above the gravel. Elevation of the test is 271 feet. Selma chalk was topped at 2277 feet and base of it was reached at 3028 feet.

Two new locations were made in the Jackson field during the last week. Feazel Oil & Gas Company have up derrick for Garrett 1, SE NW Section 2-5-1e, Hinds County, and Mississippi Gas & Fuel Company has also erected derrick and plans to spud by January 5 in Hanna 1, SW SW NE Section 14-5-1e, Rankin County, an outside test.

Third Commercial Gas Well in Process Of Completion at Amory

Amory, Miss.—Amory Petroleum Corporation's Carter 3, SE SE Section 7-13s-17w, Monroe County, Mississippi, on December 24 tested gas estimated at from 100,000 cubic feet daily to 250,000 cubic feet daily in a hard sand which was encountered under a cap rock in which 6⅝-inch casing had been set at 2382 feet. If the well is completed at present depth it will be the third gasser for the Amory field, the first gas well which was about 5,000,000 cubic feet capacity, having been brought in in 1925 upon a location picked by H. D. Easton, Shreveport geologist, who also made location for the present test. The well completed in 1925 was the first commercial well ever completed in Mississippi.

WORLD PETROLEUM IN REVIEW

Nippon Sekiyu Kaisha Activities

Tokyo, Japan. — Reports of the activities of the Nippon Sekiyu Kaisha which owns oil fields in several of the prefectures shows that this company at the end of the half year ended September, 1930, had drilled about 220 wells. The gasoline output of the company was considerably increased by the enlarging of the gasoline plant at the Takata field. A larger output of natural gas was insured by the completion of gas wells in the Kinsui field in Taiwan from a depth of 3200 feet.

Field suction and rectifying equipment has been installed for treating the gas from these wells and equipment for the production of gasoline will be completed soon.

Egyptian Production for October

Cairo, Egypt.—Official figures for production of petroleum during October give an estimated total of 176,379 barrels of crude and 1709 barrels of gasoline. The majority of the production comes from the Hurghada field and is handled through the port at Suez.

Congress Gets Oil Bill

Bogota, Colombia.—Changes from the old law as seen in the new petroleum bill recently presented to congress indicate reductions in royalties to be paid on oil to be produced from private and public lands. The royalties are scaled in accordance to zone distances from shipping points. The transportation of the government's share of the oil must be made from the field to the seaport at the expense of the producing company. Another proposal of the bill is to abolish proposed banding of the country into seven-mile strips and establish definite preserves instead. Conditions of the bill would permit companies to explore for petroleum for six years before beginning actual drilling work and then would be permitted to further exploit the territories or concessions for petroleum for a period of 30 years.

Oil Prospects Promising

Paris, France. — Efforts of the French government to locate oil pools sufficient to supply the needs of the naval and industrial organizations of this country have seemed futile during the past two years that exploration work has been carried on in its colonies. This seeming futility has been practically dispelled, however, within the past two months with the location of a small pool in French Morocco.

Three areas are the scenes of the most active drilling being conducted by the government. The Gharb region of French Morocco, bordering on the boundary of the Spanish zone, has already hit a small pool and it is expected that a large producing pool will be the outcome of operations in this territory and production will be easy to handle due to the fact that it is only a short distance to the Mediterranean ports. The other two territories being exploited are the shores of the Gulf of Tunis in Tunisia and the Black Point Bay region of French Equatorial Africa.

The program as outlined by the government calls for a four-year plan, only half of which has been carried out. Twelve tests have been drilled in the Gharb region, the deepest to 1700 feet. At 130 feet, the drillers encountered a small show of oil and it is believed by the geologists that a large pool will be encountered but it may be necessary to drill the test to 4000 feet before this production will be reached.

Gusher—Baku District, Russia

Petroleum Refining Government Monopoly

Santiago, Chile. — The passage of a bill recommended by President Carolos Ibanez to the assembly provides for governmental control of petroleum refining. The bill is effective at once and will be adhered to by all companies operating in this country at the present. All rights to import and sell gasoline will be denied private concerns unless concessions are awarded by the government to individuals or companies whereby they will be permitted to sell this commodity.

Temporary Injunction Granted Operator

Mexico City, Mexico.—A temporary injunction has been granted Mexico Texas Petroleum & Asphalt Company by the Tampico district court judge as a result of an application for an injunction against the President of the Republic and the National Agrarian Commission. The company contends that federal authorities have decided to parcel out under agrarian laws 1566 acres of oil lands in the Aldamas district of the State of Tamaulipas covered by the company's concessions.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
LONG BEACH—		
Davis Investment Co., No. 17	1650	7355
Republic Pet. Co., No. 1	900	7250
Richfield Oil Co., Denni 2	50	5350
PLAYA DEL REY—		
Barnsdall Oil Co., Burks 8	450	4050
Coloma Oil Co., No. 2	250	4571
Considine Oil Co., No. 1	240	4690
W. M. Crawford, No. 1	225	4325
Donley Barteaux, No. 1	560	6150
Langford Oil Co., No. 1	300	6016
West Bay Oil Co., No. 1	1000	5925

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BUTLER COUNTY—		
Alison and Fitzwilliams, Pierce 5, sw nw ne 28-25-4e	*	2757
GREENWOOD COUNTY—		
Patterson et al, Sterling 1, sw c se 25-22-11e	*	2091
HARPER COUNTY—		
Atkinson, Amerada and Dixie, Misak 1, se c 25-34-6w	*	5232
MARION COUNTY—		
Harwood Oil Co., Tahlman 1, nw ne sw 11-17-4e	80	2320
McPHERSON COUNTY—		
W. C. McBride, Inc., Whitwright 1 (owd) ne c sw 30-19-1w	2050	3414
Broswood Oil Co., Griffin 1, c nw sw 14-19-2w	¶22½	2899
Rush, Graham Bros. and Shell, Robinson 1, c se sw 10-19-2w	¶8½	2922
RENO COUNTY—		
Shell Pet. Corp., Popp 1, nw c 11-25-5w	*	4043
RICE COUNTY—		
United Pet. Corp., Willman 1, ne c 29-21-9w	*	3554
SEDGWICK COUNTY—		
Blackwell O&G, Drollinger 1, ne sw nw 31-27-2e	*	3360
Blankenship Pet. Co., Shaffer 2 (owd) se ne nw 30-27-2e	550	3263
Magnolia Pet. Co., Wheeler 3 (owd) ne c 19-27-2e (per hour)	80	2962
E. F. Jones et al, Smyser 1, sw c se ne sw 19-27-2e (19 hrs.)	140	3296
Work and Covell, Freeman 1, ne c nw 19-27-2e	275	2997
Roy Ramsey, Davies 1 (owd) cwl sw sw sw 17-27-2e (12 hrs.)	455	2971
Shell Pet., Lygrisse "A" 3, cel sw sw ne 15-26-2e	220	2895
STEVENS COUNTY—		
Texas Interstate Pipe Line Co., Gregory 1, c sw 31-33-38w	¶6½	2557
Sidwell Drlg. Co. et al, Jenkins 1, c sw 10-34-39w	¶8	2658

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CADDO COUNTY—		
Magnolia Pet. Co., White 3, sw c se se 25-6-10w	*	5012
Carter Oil Co., Melton 1, c nw se 26-6-10w	*	3472
CARTER COUNTY—		
Carter Oil Co., Hopson 1, ne c 25-1s-3w	*	2500
Max Westheimer, Cox 1, ne c nw, 25-1s-3w	*	2801
Magnolia Pet. Co., Pool 1, se ce ne ne se 29-1s-2w	*	790
Magnolia Pet. Co., Pollock 4, se c 14-1s-3w	75	2242
The Texas Co., Eaves 4, nw se sw 24-1s-3w	545	2340
CREEK COUNTY—		
C. G. Tibbens O&G, Waters 4, c se se 6-14-9e	¶½	1245
S. W. Anthony, Felix 1-A, ne c nw sw ne 9-16-12e	¶2½	1780
Imo Oil Co. et al, Coonrod 1, ne c sw se 4-19-9e	¶½	2005
GARFIELD COUNTY—		
Champlin Refining Co. et al, Hays 1, ne sw sw 30-23-3w	¶4	5096

For Tabulation and Comparison See Market Section

Company, Well and Location	Initial Production Bbls.	Depth
HUGHES COUNTY—		
C. B. Bunte et al, Westmorland 1, c ne sw 11-7-8e	¶20	2937
KAY COUNTY—		
Waggoner Pet. Co., Van Silans 2, c se sw 18-25-2e	*	4302
LINCOLN COUNTY—		
T. J. Hughes et al, Hall 1, se nw sw 25-17-3e	¶4	3902
LOGAN COUNTY—		
Slick Estate, Ramsey Pet. and Prairie, Jones 1, c se nw 24-17-2w	*	5744
MUSKOGEE COUNTY—		
J. R. Parks, Lewis 1, ne c nw se se 15-15-18e	*	1308
Taylor and Geiger, Tucker 4, se c nw nw 16-15-15e	¶½	828
OKFUSKEE COUNTY—		
Papoose Oil Co., McNac 6, cnl nw se 25-11-11e	¶3	3366
F. A. Havel, Likowski 2, cnl ne nw 26-11-11e	20	1618
Henry Oil Co., Harjo 2, nw c 36-12-9e	*	4157
OKLAHOMA COUNTY—		
Slick Estate, Dean 1, se c ne sw 10-11-3w	48,704	6020
Wirt Franklin Pet. Corp., Theimer 9, nw sw se 2-11-3w	4600	6540
Slick Estate and Atkinson, Clagg 1, ne nw sw 2-11-3w	2030	6244
OKMULGEE COUNTY—		
Bassinger Oil Corp. et al, Fox 5, c ne se 14-16-13e	¶6¼	1542
Kirkland and Son, Long 2, c nw ne 19-15-13e	*	2217
Mack Drilling Co., Peters 1, se c sw 34-16-14e	*	1829
OSAGE COUNTY—		
Oliphant and Boston Heights Oil Co., 4, ne c se 10-21-8e	100	2398
Turman Oil Co., 5, cwl sw 11-21-8e 16 hours	115	2256
Mid-Co Oil Co., 14, (owd) ne se se 18-22-10e	10	1917
Mid-Continent Pet. Corp., 2, nw sw ne 34-20-10e	*	2347
W. D. Gray et al, 7, nw se nw 19-22-11e	*	2125
PITTSBURG COUNTY—		
Choctaw Gas Co., Hayhurst 1, nw ne ne 16-7-18e	¶10	1802
Public Service Co., (Okla.) Carney 2, nw c 16-7-18e	¶11	1722
PONTOTOC COUNTY—		
Clark and Cowden, Brown 1, ne se ne 12-4n-7e	640	1932
POTTAWATOMIE COUNTY—		
Westheimer and Daube, Freed 1, (owd) nw sw nw 24-7-4e	250	4183
Wilcox O&G, Warren 8, se ne sw 23-6-3e	75	3446
I. T. I. O., Gregg 3, ne se sw 23-6-3e	450	3480
SEMINOLE COUNTY—		
Magnolia Pet. Co., Harjo 1-A (owd) ne c 14-7-6e	¶71 205	3300
Magnolia Pet. Co., Wood 2, se ne sw 29-6-6e	10,195	2730
STEPHENS COUNTY—		
Carter Oil Co., Toney 1, nw c ne sw 27-2s-7w	40	1494
TULSA COUNTY—		
Owens and others, Warner 1, nw c se sw 33-18-14e	40	1500
Jones and others, Grayson 1, ne c se nw 1-19-10e	¶3¾	1664
Dunnigan et al, Brown 1-A, cnl ne nw 28-17-14e	*	2015
Holmes, Burton et al, Hawkins 1, nw c sw nw 29-19-10e	*	3247
WAGONER COUNTY—		
F. G. Helscel, Apueka 1, se c sw nw 6-17-15e	*	1425
A. L. Hunt, Barnett 1, se c 26-17-16e	*	1450
Bryan Pet. Co., Jackson 3, ne nw sw 34-17-16e	¶2	845

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
Brink & Brink, Bingham 368, tr 63	2	
D. T. Andrus & Co., Bingham 321, tr 2	2	
South Penn Oil Co., Fee 261	2	
Producers Bank & Trust Co., Bingham 143, tr 10	2	
BUTLER COUNTY—		
Wm. Pfeifer & Co., Burr 1	*	
J. J. Olcus, Olcus 1	*	
Ravenswood Oil Co., Huleston 1	2	
ALLEGHENY COUNTY—		
Sharpsburg Oil & Gas Co., Arbuckle 1	15	
CENTER-MIDDLE FIELD—		
M. P. Wasson & Co., Borden 1	2	
Thompsett & Co., T. & W. Oil Co. 73	2	
CLARION-VENANGO COUNTIES—		
O. W. Tracey, Wilbert 2	2	
Franklin Trust Co., Dana 4	2	
F. C. Deemer, Meherten 33	2	
National Petroleum Co., Lytle & Co. 1	*	

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
GILMER COUNTY—		
McCall Drilling Co., Rolson 1	10	
J. A. Tierney, Hardman 1	15	
CABELL COUNTY—		
Hamilton Gas Co., Reynolds 1	¶¼	
Carter 1	¶¼	3070
CALHOUN COUNTY—		
M. F. Crawley & Co., McManamay 3	*	1785
McCall & Co., Bailey 1	*	2665
KANAWHA COUNTY—		
Buff Lick Oil & Gas Co., White 1	2	
ROANE COUNTY—		
C. E. Vandeventer Gas Co., McMillan 1	¶¼	
LEWIS COUNTY—		
Charles Morran, Allmand 1	¶¼	2160
WIRT COUNTY—		
Richmond & Davis, Nuzum 1	*	

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
HANCOCK COUNTY—		
James C. Ellis, Richards 1	200	
Hupp, Duff & Co., Chanceler Hrs. 1	¶1	
OHIO COUNTY—		
Cumberland Petroleum Co., Conley 1	*	785
Kentucky Natural Gas Co., Reynolds 2	¶½	
Brenner & Adams, Bellmay 5	3	
BARREN COUNTY—		
Wilson & Co., Wilcoxson 1	¶¼	
Unknown Parties, Roberts Hrs. 1	25	
F. McKinney 1	¶1	
McKinney 2	¶1	
R. Ferguson 2	¶1	
Shaw 1	¶½	
V. H. Edwards 1	¶½	
Allen 1	¶½	
METCALF COUNTY—		
Unknown Parties, Mrs. Roberts 1	¶¾	
Mrs. Roberts 2	¶½	
J. Roberts 1	¶¼	
H. C. Robert , Nos. 1 & 2		
Smith 1	¶½	
Ennis 1	¶½	
Chaney 1	¶½	
Johnson 1	¶½	
Irwin 1	¶½	
HART COUNTY—		
Le Grande Oil Co., B. Ross 7	400	
Carpenter, Frost & Co., Coats Hrs. No. 1, Tr. 2	300	
Coats Hrs. No. 1, Tr. 3	450	
Coats Hrs. No. 2, Tr. 1	650	
Wittmer Oil & Gas Co., Peyton No. 4, Tr. 1	150	
Rex-Pyramid Oil Co., Peyton No. 2, Tr. 1	275	
Dr. L. C. Young, McGee 1	375	

Company, Well and Location	Initial Production Bbls.	Depth
Norris & Davis, Hatcher 3	215	....
Greenup & Co., B. Smith 1	¶¼	....
B. Smith 2	*	....
Bole & Co., L. Smith 1	¶¼	....
Petty & Hurt, Davidson 1	*	....
J. C. Lohman, Branstetler 1	¶¼	....
Unknown Parties, Mrs. L. Wilson 1	¶½	....
Mrs. M. Wilson	175	....
S. Thompson 1	125	....
H. Carter 2	200	....
H. Carter 3	150	....
H. Claymor 1	85	....
G. Claymor 1	¶½	....
H. Coffee 1	*	....
T. Caudel 1	¶½	....
McClassen 1	250	....
Hodge Hrs. 1	*	....
Nunn 1	*	....
Norris & Co., Perkins 1	¶½	....
Unknown Parties, Woodward 1	*	....
Stone 1	*	....
Steen 1	*	....
SOUTHEASTERN OHIO		
WASHINGTON COUNTY—		
R. C. Wooster, Becker 2	*	283
Morganstown Oil Co., Gerbert 5	*	464
MORGAN COUNTY—		
The Kemrow Co., Abel 4	¶¼	1460
NOBLE COUNTY—		
M. H. Harper & Co., Harper 1	*	610
MONROE COUNTY—		
Wittmer Oil & Gas Co., Pflatzgraf 1	*	1860
CENTRAL OHIO		
MEDINA COUNTY—		
Edson & Co., Frank 9	12	476
A. Packard 10	1	378
Ripley 36	*	500
Ohio Fuel Gas Co., Hines 1	¶¼	....
Westendorf 1	*	....
Barnhart & Co., Funk 3	*	2886
KNOX COUNTY—		
Upham Gas Co., Smith 1	¶¼	2504
I. C. Robinson, McKee 1	*	2953
Reno Oil & Gas Co., Day 1	¶¼-40	3142
ASHLAND COUNTY—		
Robinson & Co., Young 5	¶¼-2	567
Wile & Co., Mosher 5	*	606
Farmer & Co., Stewart 1	*	792

Company, Well and Location	Initial Production Bbls.	Depth
LICKING COUNTY—		
G. H. Long, G. Ashcraft 1	¶¼	636
Ohio Fuel Gas Co., Goldsmith 1	¶½	3005
Watkins 1	¶¼	....
WAYNE COUNTY—		
Ohio Fuel Gas Co., Hohenshil 2	¶¼	....
Dave Shaffer & Co., Oliver Hrs. 2	*	....
PERRY COUNTY—		
Ohio Fuel Gas Co., Rusler 2	¶¼	3135
Sturm & Hilyard, Hoover 1	*	2752
ATHENS COUNTY—		
Leeper & Co., Minear 2	*	1220
Gordon Oil Co., Patton 1	*	3220
TUSCARAWAS COUNTY—		
Traders Oil & Gas Co., Couts 2	¶¼	3548
Wehrle Co., Rector 1	*	3575
COSHOCTON COUNTY—		
George Jewell, Hamilton 1	*	1050
FAIRFIELD COUNTY—		
Patton & Bishop, Morrow 2	*	779
NORTHWESTERN OHIO		
HARDIN COUNTY—		
American Oil Dev. Co., Reed 1	¶¼	1370
WYANDOT COUNTY—		
Jones & Coyle, Chaney & Co. 1	¶2	1376
INDIANA		
GIBSON COUNTY—		
Shell Petroleum Corp., Corn 1	20	1425
SULLIVAN COUNTY—		
James C. Ellis & Co., Stuck 1	*	540
Dome Oil Co., Jewell 1	¶1	570
ARKANSAS		
UNION COUNTY (Smackover)—		
Ark. Fuel Oil Co., Murphy D-4, 8-16-15 (sec. Compl)	*	2026
NORTH LOUISIANA		
RICHLAND PARISH—		
Palmer Corp., Holdiness 1, 8-16-6e	¶32¾	2430
Southern Carbon Co., Thomason E-1, 32-16-6e	¶25¼	2445
LOUISIANA GULF COAST		
FOUR ISLE—		
The Texas Co., Four Isle 4	*	6933
VINTON—		
Wilson Broach, Wilson 5	680	3150
ROANOKE—		
Vacuum Oil Co., Tietje 1	*	4840

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
BARBERS HILL—		
Humble O&R Co., Myers Fee 6	*	6602
Humphreys Corp., Barber 1-B	*	4267
BATSON—		
Paraffine Oil Co., Paraffine 89	5	370
BLOOMINGTON—		
Lion Oil Refining Co., McFadden 2	¶35	6454
GOLIAD COUNTY—		
T. B. Slick Estate, Poetter 1	125	4211
Gibson Oil Co. & Benedum Trees, Parks 1	¶3	4515
NORTH DAYTON—		
Saxet Oil Co., Davis 2	*	5380
Harvey S. Smith et al, Kynerd 1	*	5700
PETTUS—		
Union Prod. Co., Ray 27	¶35	4270
Ray 13	300	3686
Moody-Seagraves Co., Quincy 1	*	4825
Houston Oil Co., Blk 23, No. 1 (w.o)	427	3931
Houston Oil Co., Blk 23, No. 1 (w.o.)	427	3931
Blk 33, No. 1 (w.o.)	134	3936
PIERCE JUNCTION—		
Rio Bravo Oil Co., Settegast 20-A	*	4743
Gulf Prod. Co., Taylor 27	*	4300
REFUGIO—		
Luling O&G Co., City 1, Blk 4	200	3692
Union Prod. Co., Fannie Heard 11	¶30	3743
Moody-Seagraves Co., Carlisle 1, (w.o.)	200	6466
SPINDLE TOP—		
Yount-Lee Oil Co., McFadden 143	*	6600

EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
PANOLA COUNTY—		
Nemours Corp., G. W. Brumble 7, E. F. Mitcheson sur	¶¼	2360

CENTRAL EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
VAN ZANDT COUNTY—		
Pure Oil Co., A. D. Clark (42-ac) 2	60	2924
N. E. Clark (89-ac) 5	3000	2953
D. R. Howell (60-ac) 3	5000	2952
Mary P. Neills 3	2000	2951
M. F. Shirley (38-ac) 3	6000	2938
Shell Pet. Corp., J. T. Taylor 4	10,000	2942

PERMITS GRANTED FOR NEW WELLS

ARKANSAS

DALLAS COUNTY—E. C. Brewer, Trustee, W. E. Hillman 1, 360 ft e and 40 ft s nw cor se¼ ne¼ 20-10-13. J. H. James, Trustee, Fordyce Lbr. Co. 1, 200 ft s and 200 ft e nw cor ne¼ nw¼ 11-9-15.

CALIFORNIA

BELRIDGE—Belridge Oil Co., No. 8-27, 27-27-20; No. 48-35, 35-27-20.

KETTLEMAN HILLS—Standard Oil Co., No. 85, 29-21-17.

LONG BEACH—Shell Oil Co., Hamilton 4, 29-4-12; Nesa 13, 29-4-12; Wells 5, 29-4-12. Mariana Pet. Corp., Meigs 2, 28-4-27.

LOS ANGELES COUNTY — Hines Pet. Corp., No. 1, 9-2-15. Rucker and Croul, No. 2, 22-2-10.

PLAYA DEL REY—Pacific States Holding Co., No. 1, 28-2-15. The Ohio Oil Co., Recreation Gun Club 9, 28-2-15. Pacific Shore Oil Co., No. 4, 28-2-15. Metropolitan Oil Corp., No. 4, 28-2-15.

SANTA BARBARA COUNTY — Palisades Pet. Corp., Meigs 2, 28-4-17.

TULARE COUNTY—W. D. McCoy, No. 1, 35-21-17.

VENTURA COUNTY—Associated Oil Co., Lloyd 87, 26-3-23.

LOUISIANA

CALCASIEU PARISH (Drill) — Wilson Broach Co., Beaumont, Texas, Strip No. 6, 33-10s-12w, 250 ft n and 237 ft e sw cor se¼ ne¼ of sec.

For Tabulation and Comparison See Market Section

SABINE PARISH—W. M. Coats Shreveport, La., Sabine Lbr. Co. B-2, 1-7n-12w, 330 ft w and 785 ft n sw cor sw¼ sw ¼. S. W. Coats, Shreveport, La., Sabine Lbr. Co. B-1, 1-7n-12w, 160 ft n and e sw cor sw¼ sw ¼ of sec. W. M. Coats, Shreveport, La., Sabine Lbr. Co. No. 2, 1-7n-12w, 330 ft s and e nw cor nw¼ sw¼ of sec.

ST. MARTIN PARISH (Drill)—J. S. Abercrumbie Oil Co., Houston, Texas, Aueust Barras et al No. 1, 85-10s-6e, 512 deg w and 1236 n and s— 67 deg 15 ft e from sw cor of sec.

UNION PARISH (Drill)—Greenwood Prod. Co., Shreveport, La., Norsworthy No. 5, 9-21n-3e, 1320 ft s and 1999 ft e nw cor of sec.

KANSAS

BUTLER COUNTY — Magnolia Pet. Co., Koogler 64, sw nw sw 21-26-5e; Magnolia Pet. Co., Stone 6 (owd), nw ne sw 2-25-5e.

COWLEY COUNTY — McNabb and Bess Drlg. Co., Nelson 1, se se nw 21-33-3e.

McPHERSON COUNTY—Barnsdall Oil and The Texas Co., Ailmore 1, c ne ne 22-19-2w; Madison and Shell, Russell 1, c sw se 1-19-2w.

SEDGWICK COUNTY—Magnolia Pet. Co., Vickers 2, nw c 20-27-2e.

OKLAHOMA

COMANCHE COUNTY—Pace et al, Pruitt 1, c sw se 8-1n-9w.

CREEK COUNTY—Gled Oil Co., Micco 1, nw c ne 30-17-8e. Gilcrease Oil Co., Bright 1, nw c 36-17-9e. Wilrough Oil Co. et al, Okla. Union Railway 1, nw c se nw 32-17-12e. Union Oil & Mining Co. et al, Evans 1, se c nw 30-19-9e.

HUGHES COUNTY — Gilcrease Oil Co., Buckner 1, ne nw se 17-7-9e.

KIOWA COUNTY—Annasmith and Walker, Grigsby 1, se c ne se 1-6n-15w.

MUSKOGEE COUNTY—E. B. George, Monday 1, ne c 9-13-16e. Taylor and Geiger, Tucker 1, cnl nw se 16-15-15e. John Aggas, Hawkins 6, sw c nw se 28-16-15e.

OKLAHOMA COUNTY—Morgan Pet. Corp., Stout-Gibbons 1, se c sw se 34-12-3w. I. T. I. O., Ferguson 1, ne c nw nw nw 23-11-3w. California Operating Co., Massey 1, se c ne nw se 15-11-3w. Slick Estate, Central 2, csl se se se 3-11-3w.

OKMULGEE COUNTY—L. C. Wheeler et al, Throckmorton 1a, se c sw 29-15-13e.

PAYNE COUNTY—Deep Rock Oil Corp., Echohawk 5, sw nw ne 9-18-5e.

PONTOTOC COUNTY—Madison Pet. Corp., Gilcrease 1, nw sw nw 7-4n-8e.

SEMINOLE COUNTY—Mid-Kansas O&G and Ramsey, Davis 4, nw se nw 30-8-8e. Mid-Continent Pet., Bruner 6, sw se se 11-7-6e.

TULSA COUNTY—Ohio Pet. Co., Haikey 2, cel sw sw 33-18-14e.

WAGONER COUNTY—P. Boyle et al, Ballard 1, cwl se ne 16-16-15e.

SOUTHWEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
DARST CREEK—		
Gulf Prod. Co., Dix McKean 13	525	2578
Magnolia Pet. Co., Miller 7	425	2584
Klein 5	475	2614
La. O. & R. Co., McKean 6	1230	....
Trinity Drillers, Miller 2-B	200	2616
KERR COUNTY—		
Evans and Gant, Love 1	250	3374
NUECES COUNTY—		
Saxet Oil & Gas Co., Donigan 2	¶10	2467
REFUGIO COUNTY—		
Royalty Oil Corp., Hornberg 1	300	5447
ZAPATA COUNTY—		
Shankel-Newton Oil Corp., Guitterriez 1	60	1300
J. K. Gibble et al, Lyda 1	50	1245
O. W. Killam, Cuellar 32-B	75	1565
South Texas Prod. Co., Guittierrez 1	¶30	1733
S. R. C. Oil Co., Montemayor 3-D	40	1313
Montemayor 2-D	400	1391
BASTROP COUNTY—		
W. G. Schamel et al, Trigg 2	*	1790
BEXAR COUNTY—		
Penn Oil Co., Kosub 1	*	2259
KMS Pet. Co., Skalicky 1	*	1115
Eckert et al, Arthur 10	¶¼	685
Eckert and Son, Brehm 3	8	657
BROOKS COUNTY—		
Southern Crude Oil Pur. Co., Holbein-Wormser 1	*	5105
CALDWELL COUNTY—		
Anderson et al, Vickery 1	2	2745
J. T. Callahan, Callahan 3	*	2662
DE WITT COUNTY—		
Gibson and McIntyre, Von Roeder 1	*	4030
DUVAL COUNTY—		
Wilkins and Seacord, Benavides 2	*	3087
Frazer & Schoolfield, Bishop Land Co. 1	500	2308
The Texas Co., Duval Co. Ranch 1	*	2331
EDWARDS COUNTY—		
James Dalgish, Peterson 1	*	5206
GOLIAD COUNTY—		
Gibson Oil Co., Parks 1	*	5267
Union Producing Co., Ray 27	¶25	4272
GONZALES COUNTY—		
Linden Pet. Co., Hensley 1	*	4811
United No. & So. Dev. Co., Wells 1	*	4882
DARST CREEK—		
Gulf Prod. Co., Posey 10	637	2567
Tadlock 6	480	2619
Ray Oil Co., Felsing 1	*	1275
Humble O&R Co., Denman 1-B	40	2653
The Texas Co., Appling 1	*	2605
Knoblock 6-A	1076	2477
Roamel 4	225	2549
Suttles et al, Boenziger 1	*	2004
Wurzbach 1	*	2139
Gulf Prod. Co., Dix McKean 12	690	2573
La. Oil Co., Dix McKean 5	1170	2525
Dix McKean 6	1230	2521
Magnolia Pet. Co., Dix McKean 15	250	2614
Trinity Drillers, Miller 1	140	2616
JIM HOGG COUNTY—		
Watts et al, Gomez 1	*	2000
KENDALL COUNTY—		
Permian Oil Co., Boles 1	*	2485
Abercrombie & Harrison, King 1	*	2250
JIM WELLS COUNTY—		
Largo Oil Co., Wade 1	¶30	2910
KARNES COUNTY—		
J. F. Morrisey et al, Ragsdale 1	*	2198
LIVE OAK COUNTY—		
Harper et al, Nichols 3	*	1226
Penn Oil Co., Lyne 2	*	2760
Houston Oil Co., Cartwright 22	¶3	3900
MEDINA COUNTY—		
United No. & So. Dev. Co., Little 1	*	3600
MILAM COUNTY—		
Rheub Tham & Tate, Johnson 1	*	1417
NUECES COUNTY—		
Haile & Hale, Koenisch 1	*	....
Houston Oil Co., Comstock 1	¶30-134	4903
STARR COUNTY—		
Los Olmos Oil Co., Bass 1	*	370
WEBB COUNTY—		
O. W. Killam, Garcia 2	¶30	1850
W. R. Shankle, Guittiere 2	30	1280
S. R. C. Oil Co., Montemayor 3-D	40	1313
O. W. Killam, Lopez 1	*	2420
WILLIAMSON COUNTY—		
G. F. Hunt, Wileman 2	*	1278
Hardy Roberts, Gerald 1	*	440
E. L. Chapman, Abbott 6-D	185	1903
Stratton et al, Simmons 1-B	*	1998
Abbott 1	25	2000
Trapshooter Reilly, Lawrence 2	200	1871
W. D. Anderson, Forward 1	*	2102
Bartlett et al, Watson 1	*	982
Chew & Clark, Allison 1	*	40
W. D. Anderson, Simmons 2	250	1465
Birdwell et al, Simmons 1	30	2241
Martson et al, Simmons 1	30	2235
McNeil et al, Kilgore 7	15	2061
ZAPATA COUNTY—		
O. W. Killam, Cuellar 35	100	1570
S. R. C. Oil Co., Montemayor 4-D	50	1308
Palmer Oil Co., Garza 2	*	1493
Moore & Moore, Flores 1	*	2000
Flores 2	*	....
O. W. Killam, Cuellar 34-B	100	1599
Allide Oil & Gas Co., Bustamente 1	*	2009
J. H. Winch, Bustamente 2	400	1257
J. J. O'Hern, Benavides 1	*	1846
ZAVALLA COUNTY—		
Ed Anglin, Matthews 2	*	902

TEXAS PANHANDLE

Company, Well and Location	Initial Production Bbls.	Depth
GRAY COUNTY—		
Empire Gas & Fuel Co., McCullough 1	¶25	2650

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
E. Estergren et al, Hasson 1	*	775
W. B. Hamilton et al, Ward 2	*	1085
JACK COUNTY—		
Rathke Oil Co., Kinder 1	¶½	4720
WICHITA COUNTY—		
Lambert & Trout, Overby 12	*	1251
WILBARGER COUNTY—		
The Texas Co., Waggoner 388	*	1068
NORTH YOUNG COUNTY—		
Belknap Coal Co., Fee 4	195	669
J. P. Coleman et al, Cantrell 1	*	601
F-H-E Oil Co., Finch 1-B	*	835
W. B. Hamilton et al, Finch 2	160	670
Finch 3	*	806
Jacob O&G Co., Finch 1	20	670
King Roy. Co. & Bullington, Graham 9	300	710
C. J. Kleiner & Riggs, Larimore 3	285	715
Panhandle Ref. Co., Larimore 1-A	*	707
Petroleum Producers Co., Graham 8	240	702
Graham 9	300	711
The Texas Co., Finch 2-B	35	671
Willis & Terrell et al, Nowakowsky 1	*	562
Wooten & Reed, Horton 3	*	641

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
CALLAHAN COUNTY—		
Hornbeck & Terry, Terry 2	¶¼	565
Thompson et al, Bell 1	*	1015
COLEMAN COUNTY—		
Hoffer Oil Corp, Bragg 1-A	*	3591
McGahhey & Prairie O&G Co., Thate Bros. 1	¶5¼	1500
EASTLAND COUNTY—		
Mays et al, Brashear 2	¶¼	1280
SHACKELFORD COUNTY—		
H. & H. Drlg. Co., Walker 2	10	375
Worth Pet. Co., Alexander 1	*	1025
STEPHENS COUNTY—		
Anderson-Pritchard et al, Harvey 1	*	2520

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
LOVING COUNTY—		
The California Co., Reagan-McIlvain 5	240	4316

Fine Bridge Used for Hauling Oil Field Materials

Venice, California (now Playa del Rey oil field) was developed as a pleasure resort and magnificent bridges were built across a number of these canals. A sample of the bridges available now for hauling drilling materials for the boom oil field is shown in the picture. (Photo by Underwood and Underwood)

WILDCATS FROM ALL SECTIONS

WEST TEXAS

ANDREWS COUNTY—Deep Rock Oil Co. et al's Kuykendall 1, dr 1500 ft.

BREWSTER COUNTY—Trans-Pecos O&G Co.'s Jones 1, elev 3073 ft, set cas 2530 ft.

COKE COUNTY—Reid-Hitchens & Stanolind O&G Co.'s Duncan 1, materials.

CONCHO COUNTY—Beesley et al's Waring 1, sp and sd. A. W. Turner-Cromwell & Wesner's Brosig 1, co 1520 ft.

CRANE COUNTY — Continental Oil Co.'s Cowden 1-C, top salt 690 ft, dr salt 1540 ft. Cranfill Bros. Oil Co. et al's J. T. Muir 1, elev 2499 ft, top salt 485 ft, top white 2330 ft, set cas 3995 ft. Cranfill & Gulf Prod. Co.'s J. B. Tubb 1, elev 2526 ft, salt 505 ft to 1400 ft, top brown lime 1410 ft, top white lime 2455 ft, spraying oil and gas, dr on junk 4472 ft, td 4488 ft.

CROCKETT COUNTY—J. W. Dieringer et al's G. Barnscorew 1, top salt 955 ft, sd 1770 ft. Taylor-Link Oil Co.'s M. Bullock 1, top salt 1090 ft, sd 2300 ft.

CULBERSON COUNTY—Cranfill Bros. Oil Co. et al's Mrs. J. P. Seay 1, sp and sd. Grisham-Hunter Corp.'s Garren 2, sd 1520 ft. W. L. Kornrumpf et al's Garren 1, sd 1180 ft.

DAWSON COUNTY—R. A. Albaugh et al's John Robinson 1, sp and sd.

ECTOR COUNTY — Southern Crude Oil Co.'s Cowden 2, dr 1570 ft. H. F. Wurtz et al's Ibbetson 1, elev 2840 ft, top salt 865 ft, sd 3280 ft.

EDWARDS COUNTY—Phillips Pet. Co.'s Holman 2, dr 6750 ft.

EL PASO COUNTY—Tri-State Oil Co.'s Mrs. Louis Bobadella 1, lcn.

FISHER COUNTY — Condor Pet. Co. & Humble O&R Co.'s Wilson 1, elev 1879 ft, set 8¼-in cas 2665 ft. Cranfill-Reynolds Co.'s Flannigan 2, sd 3130 ft; Willingham 3, sd 3090 ft. Roeser-Pendleton, Inc. & Amerada's G. Ribble 1, rig; Littleton 1, dr 780 ft. The Texas Co.'s Stephens 2-A, elev 1936 ft, dr 3195 ft; M. Teagarden 2-B, elev 1870 ft, dr 2965 ft.

GARZA COUNTY—Penny & Porsey's J. D. Justice 1, lcn.

GAINES COUNTY—Texas Consolidated Oil Co. & T. P. Coal & Oil Co.'s E. H. Jones 1, elev 3636 ft, fsh tools 605 ft.

GLASSCOCK COUNTY—F-H-E Oil Co. et al's J. W. Meek 1, top salt 1120 ft, top lime 2675 ft, ream to set 6-in cas in test, show oil 2970 ft.

TOM GREEN COUNTY — Cromwell et al (was Belding & Dutton's) Norsworthy 1, sd 765 ft. Mintex Oil Co.'s Campbell 1, dr 1920 ft. Phillips Pet. Co. et al's Jennings-Gulden 1, elev 2016 ft, sd 5010 ft. Pratt & Hancock's Lewis 1, sd 200 ft.

HOWARD COUNTY — Continental et al's Eason 2, dr 215 ft. Greene Prod. Co. & Getty Pet. Corp.'s Snyder 1, elev 2314 ft, top lime 1790 ft, sd 3500 ft. McGinley-Sigler Corp.'s Hyman 1-B, elev 2349 ft, top lime 1918 ft, sd 2851 ft.

HUDSPETH COUNTY—G. R. Theison et al's University 1, sp and sd.

IRION COUNTY — Central Oil Co. (W. E. Newton's) H. Horney 2, sd 1300 ft. Stanolind O&G Co.'s W. H. Williams 1, dr 125 ft. Straughan & Texannati Oil Co.'s Tankersley 1, elev 2306 ft, fsh 1480 ft. F. E. Webb et al's Williams 1, elev 2363 ft, sp and sd.

JONES COUNTY—Jameson et al's S. W. King 1, sp. C. C. Julian & Gulf Prod. Co.'s Williams 1, rig. McBest et al's Roberts 1, sd 1000 ft. Shaheen Oil Co. & Duffy's King 1, dr 1290 ft. Union Oil Co.'s Hendrick 1, swabbed 90 bbls oil 1969-71 ft. Sam Yingling et al's L. R. Cade 1, dr 2260 ft.

LOVING COUNTY — The California Co.'s Reagan-McIlvain 6, top salt 740 ft, cemt cas 4073 ft; Reagan 7, dr 735 ft. Carl Cromwell & Atlantic Oil Prod. Co.'s Russell 1, top salt 750 ft, dr 1530 ft. Eppenauer Drlg. Co. et al's Allen 2, rig. Henshaw et al's Reagan 2, rig. Lewis & Slagel Drlg. Co.'s Cartwright 1, sd 310 ft. C. H. Lockhart et al's F. W. Hubbard 1, rig. Lockhart & Co.'s Allen 4, top salt 724 ft, dr 2210 ft. Miller-Burge & Healy's Chapman 1, top salt 750 ft, top Delaware 4285 ft, flowed 200 bbls head oil at 4356 ft. H. W. Martin et al's Jim Wheat 1, lcn; Wheat-Ramsey 1, rig. Rush-Anderson & Moor's Wheat 1, dk.

MENARD COUNTY—J. C. Barnett et al's Callan 3, elev 2077 ft, co 2005 ft. L. G. Priest et al's Sorrell 1, elev 2279 ft, dr 2600 ft.

MITCHELL COUNTY—Lewis-Slagel Drlg. Co.'s A. M. Bell 1, elev 2278 ft, top lime 1700 ft, sd for shot 2827 ft.

PECOS COUNTY—J. R. Bell et al's H. J. Eaton 1, top salt 825 ft, dr 1180 ft; Eaton-Sun 1, sp and sd. J. R. Bell & Humble O&R Co.'s Scharff-Blackman 1, elev 2426 ft, top salt 940 ft, co after two shots in lime 1600-24 ft. Charlesworth-Messenger Oil Co.'s Butz 1, elev 2519 ft, sd making gas 1282-90 ft. E. L. Chapman et al's Streety 1, elev 2563 ft, sd 2210 ft. Crosby Prod. & Roy. Corp.'s Cordova 1, elev 2320 ft, top salt 725 ft, top lime 1826 ft, sd hfw 3015 ft. C. L. Dittman Drlg. Co. et al's Eaton 2, lcn; Eaton (Sec. 37) 1, top salt 945 ft, sd 1200 ft; Jackson 1, machine. Humble O&R Co.'s H. L. Kokernot 1, elev 3593 ft, top salt 2713 ft, top black lime 3981 ft, reaming hole to fsh for tools, td 6170 ft. B. C. Mann et al's Scharff-Blackman 1, top salt 675 ft, set cas 700 ft. McCarty Oil Co.'s Gray 3, fsh cas 1437 ft. J. R. Miller et al's Bennett 1, sr 1700 ft. J. D. O'Mara et al's Bennett 1, elev 2508 ft, sd 1230 ft. Penn Oil Co. et al's J. B. Alvis 1, sp. O. J. Perren et al's Eaton 2, elev 2437 ft, fsh 1765 ft. Pure Oil Co.'s Harrison 1, elev 3495 ft, top Delaware 4265 ft, sd 5000 ft. Rio Grande Oil Co. et al's R. D. Webb 1, top gray lime 2634 ft, dr 2920 ft. Riser & White's Riser 1, sd 500 ft. Eric Schelling & Slaughter's Yates 1, sd 340 ft. Sides & Cloyd's Blackstone-Slaughter 1, sd hfw 3405 ft. Southern Crude Oil Pur. Co.'s Scharff-Blackman 1, top salt 865 ft, dr 1590 ft. Williams & Moran's Heiner-State 1, elev 2528 ft, sd 1462 ft.

REAGAN COUNTY — Big Lake Oil Co.'s University 179, sd 4003 ft; University 5-C, testing 8704 ft; University 6-C, lcn. Group One Oil Corp.'s University 4-B, cemt 7-in cas 900 sacks at 8050 ft. T. B. Slick et al's A. August 1, elev 2609 ft, top salt 1095 ft, dr 3065 ft.

REEVES COUNTY—The California Co.'s Kloh 2, rig.

RUNNELS COUNTY—Chas. Dutton et al's G. W. Dean 1, fsh 2035 ft.

SCHLEICHER COUNTY—Delmar Oil Co.'s O'Harrow 1, elev 2421 ft, dr 5715 ft. Eastland Oil Co. Unit Plan's Tisdale 1, std rig. Munger-Wilson Oil Co.'s Page 1, elev 2270 ft, sd 5053 ft. Paul Teas & Walter Gant's Allison 1, elev 2311 ft, sd 3960 ft. J. D. Wesner et al's R. E. Ratliff 1, sd 750 ft.

SCURRY COUNTY — Camp Springs O&R Co.'s Strayhorn 1, sd 875 ft. R. B. Pender O&G Co.'s Davis 1, elev 2208 ft, top salt 445 ft, sd 5000 ft. Scurry County Oil Exchange's C. H. Earnest 1, cellar. Seifert & Dibble's Blackburn 1, top salt 720 ft, sd 1702 ft.

STERLING COUNTY—W. C. Beesley et al's W. L. Foster 1, elev 2518 ft, co 540 ft.

TAYLOR COUNTY — Adams-Ferguson & Hobbs' Lowe 3, rig. Eastland Oil Co. et al's Hunter 2, pb from 2750 to 2396 ft for shot. Herring-Hucony Gas Co. et al's Richie 1, elev 1978 ft, ur 2765 ft. J. B. Jameson et al's Webb 1, elev 1905 ft, sd 6251 ft. Sanger et al's Abilene Fee 1, elev 1759 ft, dr 2000 ft. Sanger O&R Co.'s Osborn 1, rig.

TERRELL COUNTY—Big Bend Oil Corp. et al's Bassett 1, elev 2396 ft, sd 2670 ft. Mid-Kansas O&G Co.'s Coode 1, elev 2405 ft, sd 5226 ft.

VAL VERDE COUNTY—O. O. Owens et al's Mills 1, elev 2130 ft, sd 6780 ft. Phantom Oil Co.'s Ingram 1, sd 3035 ft.

UPTON COUNTY—C. F. Corzelius et al's Shirk-Tidal 1, sp and sd. C. C. Duffey et al's McClintic 3, set 10-in cas 614 ft. Eppenauer Drlg. Co. et al's Chaney 5, top salt 710 ft, set cas 2225 ft. R. H. Gill et al's Shirk 1, top salt 1260 ft, dr 1855 ft. Gulf Prod. Co.'s J. H. Shirk 1, top brown lime 2462 ft, dr 2480 ft; McElroy 90, cemt 8⅝-in cas 1166 ft. Humble O&R Co.'s Damron 1, top salt 1230 ft, dr 2235 ft; Ricker 15, lcn. Penn Oil Co. & Shell Pet. Corp.'s Halamicek 1, dr 915 ft. TP Coal & Oil Co.'s King 1, top salt 1150 ft, dr 2260 ft. Weekly Oil Corp.'s McClintic 1, top salt 1090 ft, cemt cas 2600 ft; Shirk 1, elev 3086 ft, top salt 1025 ft, top lime 2495 ft, testing oil pay 2645-50 ft.

WARD COUNTY—Alpine Oil & Dev. Co.'s Boogher 2, top salt 795 ft, est 75 bbls. well 2145-2200 ft. California Co. & Atlantic's S. R. Allen 1, top salt 2296 ft, dr with oil and salt water in hole 2422 ft. Black & Massey's Allen 1, top salt 800 ft, flowing by heads 2143-2240 ft. Empire Gas & Fuel Co.'s Sealy 1, top salt 1175 ft, cemt cas 2378 ft. Grand Falls Oil Co.'s Blair-Boogher 1, top salt 765 ft, dr 2075 ft. Gulf Prod. Co.'s Hutchings 6, dr 1245 ft; O'Brien 16, rig. J. G. Kugle et al's Chas. Wallis 1, cemt cas 720 ft. Magnolia Pet. Co.'s Atlantic-Sealy 1, dr 110 ft. R. F. Owen et al's Johnson 1, elev 2499 ft, sd 1200 ft. Rector Oil Co.'s Boogher 1, top salt 790 ft, dr 1800 ft. Rickford & Smith's Johnson 1, sd 785 ft. Paul Ryan et al's E. R. Allen 1, lcn. Shipley Oil Corp.'s Monroe 1-A, elev 2655 ft, top salt 2485 ft, fsh 3780 ft. TP Coal & Oil Co.'s H. James 1, dr 1970 ft.

WINKLER COUNTY—Magnolia Pet. Co.'s M. J. Bashara 1, top salt 996 ft, dr 1285 ft; J. B. Walton 1, rig.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr — straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

CENTRAL EAST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
RED RIVER COUNTY—		
Lloyd Oil Corp., R. H. Mace 1....	*	3510
RUSK COUNTY—		
C. Rosenfield et al, E. L. Pinkston 1	*	3602

ANDERSON COUNTY—Frost Oil Co.'s Botting 1, A. B. Patton sur, elev 354 ft, Pecan chalk 2934-3158 ft, dr 3340 ft. Humble O&R Co.'s J. W. McCaffrey 1, I&GN Ry sur A-418 ft, elev 365 ft, Pecan chalk 2875-3163 ft, Austin chalk 4041-4382 ft, Woodbine sand 4562-4664 ft, dr Eagleford 5100 ft.

BOWIE COUNTY—Lee Timberlake et al's Tidwell 2, L. M. Rice sur, elev 290 ft, top Nacatosh sand 710 ft, sd 720 ft. Joe Burnham et al's G. W. Burnett 1, M. H. Janes sur, top chalk 2906 ft, sd 3150 ft. Maud Redwater Oil Co.'s Merritt 1, Y. S. McKinney sur, sd 635 ft.

CASS COUNTY—Wesley Morse et al's Henderson 1, C. C. Bailey sur, dk. Phillips Pet. Co.'s J. R. Olds 1, J. A. Stephenson sur, elev 245 ft, sd after coring dry sand 3890-3920 ft. Olds-Smith et al's Joe Athenay 1, J. C. Byers sur, spd and sd. John C. Rogers et al's Henderson 1, Wm. Davis sur, lcn; Lanier 1, K. A. Welborn sur, elev 366 ft, top Annona chalk 2144 ft, sd 1275 ft.

CHEROKEE COUNTY—Arcadia Ref. Co.'s & Buder's Jones Gin Lot 1, Edson Gee sur, sd 2598 ft.

DELTA COUNTY—D. S. Hoad et al's J. J. Baker 1, T. P. Eddin sur, sd 1275 ft. Worth-

ington & Stedham's W. H. Dejernett 1, E. Chick sur, sd 965 ft.

ELLIS COUNTY — Foster & Richardson's Moise-Cerf 1, sd 2187 ft. E. M. Rogers et al's J. L. Winn 1, O. Wheeler sur, sd 1360 ft.

FANNIN COUNTY—Ed. V. Parsons et al's Morgan 1, J. E. English sur, elev 668 ft, sd 3435 ft.

FRANKLIN COUNTY—Harper-Byers Oil Co.'s A. J. Laws 1, D. G. Rogers sur, sd 1735 ft.

GREGG COUNTY—W. T. Daniel & Mrs. Mamie Hammond's Hamby 1, John Lout sur, elev 376 ft, top Saratoga chalk 2361 ft, sd 2590 ft. W. A. Moncrief-J. E. Farrell & Arkansas Fuel Oil Co.'s F. K. Lathrop 1, Wm. Robinson sur, elev 401 ft, Pecan chalk 2458-2795 ft, dr 2820 ft.

HENDERSON COUNTY—H. B. Ashburn et al's T. E. Terry 1, Arron York sur, elev 397 ft, Pecan chalk 2810-3015 ft, sd 3800 ft. E. L. Chapman et al's Cade Bros. 3, J. B. Dorsey sur, dr 3060 ft. Texas-State Oil Co.-R. H. Dearing et al's T. H. Skinner 1, J. Hinshaw sur, elev 453 ft, Pecan chalk 2500-2603 ft, Austin chalk 3559-3977 ft, sd after testing dry at 4498 ft.

LAMAR COUNTY—K. O. Bundy-Everett & Allen's G. S. Legate 1, J. V. Cheney sur, dk.

LIMESTONE COUNTY — Imperator Oil Corp. et al's B. B. Barron 1, E. Mabry sur, dr 1300 ft. Geo. B. McCamey et al's Kosse Townsite 1-A, skid machine. E. E. O'Bryne & Chapman's S. W. Hancock 1, H. York sur, sd 1165 ft. Ben Segal & Earnest Hundahl's A. E. Smith 1, M. N. Miller sur, rig. A. M. Yost. Schuebert & Bill Reiter's S. J. Fenner 1, H. C. Hoskins sur, dr 1715 ft.

NAVARRO COUNTY—L. G. Priest et al's H. Albritton 1, Bazette area, top chalk 2276 ft, sd 2595 ft.

RED RIVER COUNTY—D. M. Buffington et al's L. H. Moore 1, D. Cornelius sur, Annona chalk 3 to 241 ft, sd 1000 ft . E. L. Chapman et al's Morris-Guest 1, S. Larkin sur, sd 1505 ft. Droppleman & Bundy's J. W. Cunningham 1, S. V. Chi sur, dr 1620 ft. Johnson Pet. Co.'s Style 1, Dean sur, sd 2215 ft. Lloyd Oil Corp.'s Mace 1, abn at 3510 ft. Echols & Peters' E. Howison 1, W. Humphries sur, lcn.

RUSK COUNTY—J. Alford et al's Wallace-Thrash 1, R. H. Pinney sur, dk. W. D. Anderson-Williamson County Properties' Daisy Bradford (40-ac) 1, elev 396 ft, top Pecan chalk 2500 ft, swab 260 bbls oil in 3 days at 3592 ft; Thompson (78-ac) 1, M. J. Prue sur, materials. Ed. W. Bateman et al's Lou D. Crim 1, E. Sevier sur, A-69, elev 403 ft, top Saratoga chalk 2275 ft, top Taylor 2350 ft, Pecan chalk 2608-3014 ft, Austin chalk 3480-3552 ft, flowed rate 900 bbls 38.3 gravity oil per hour at 3640-50 ft Dec. 28 and sd storage. Nick Barbare et al's J. T. Brown (36-ac) 1, M. J. Prue sur, dk. Burgoyne Bros. et al's J. A. Alexander (93-ac) 1, T. Jones sur, rig. Capps & Smith's J. L. Cochran 1, J. Roth sur, lcn. E. L. Chapman et al's A. P. Finney (20-ac) 1, dk. Dan Dillon et al's Frederick (19½-ac) 1, dk. Geo. Fagg et al's Camp (5-ac) 1, dk. Frank Files (Meredith & O'Mara's) Robertson (14-ac) 1, R. H. Pinney sur, dk. Deep Rock Oil Co.'s Mayfield-Alford (30.2-ac) 1, rig. Frank Foster Oil Co.'s Camp (7½-ac) 1, rig. Frank Foster & Jeffries' Mayfield Alford (10-ac) 1, rig. Haynes Drilling Co.'s J. T. Brown (40-ac) 1, M. J. Prue sur, rig. H. L. Hunt et al's C. D. Ashby 1, dr 1640 ft; Daisy Bradford (17-ac) 1, elev 391 ft, top Pecan chalk 2332 ft, top hard chalk 2500 ft, pulled tubing and swabbed 130 bbls oil in 3½ hrs at 3542-96 ft, td 3650 ft. Laster Oil Co.'s D. Bradford (Lot No. 14) 1, rig. Lide et al's Calvin Young (40-ac) 1, M. J. Prue sur, dr 600 ft. Tex Lloyd et al's Camp (5-ac) 1, elev 408 ft, dr cem plug 3525 ft. J. K. Lewis & Goodman's O. C. Jones (15-ac) 1, elev 507 ft, top Pecan chalk 2420 ft, dr 2655 ft. Patton & Harrell's Frederick 1, lcn. C. Rosenfield et al's Pinkston 1, abn in Georgetown lime at 5590-3602 ft. Rusco Oil Co.'s D. Bradford (Lot No. 13) 1, dk. United Producers Co.-Knight & Shaw's Mayfield Alford 1, lcn. Wainwright-West Oils, Ltd.'s Moore 1, materials. Nat Sadler et al's W. C. McElroy (45 ac) 1, Abner Nail sur, lcn. Jack Younger & Hill's D. Bradford (5-ac) 1, dk.

SMITH COUNTY—Owen-Sloan Oil Co. & R. H. Davis' J. H. Starnes 1, J. W. Allen sur, elev 417 ft, Pecan chalk 2738-3052 ft, top Austin chalk 3771 ft, dr sand 4240 ft. T. B. Slick & J. G. Kugle, Jr., et al's M. Freeman 1, A. J. Lagrone sur, elev 498 ft, Pecan chalk 2980-3275 ft, sd 3685 ft. Sun Oil Co.'s Oscar McGehee 1, Thos. Quevedo sur, elev 428 ft, dr 3610 ft. Thayer & Rogers' Dr. Willingham 1, Jacob Herrin sur, sd 2000 ft.

UPSHUR COUNTY — McGinley Corp.'s Reeves-Truitt 1, L. B. Brown sur, rig.

VAN ZANDT COUNTY—Warren T. Daniel et al's Cumbie 1, John Wright sur, elev 457 ft, Pecan chalk 1690-1730 ft, sd 2275 ft. J. C. Fore & Geo. L. Pace et al's P. S. Hand 1, Wm. Sherman sur, Pecan chalk 2420-44 ft, top Austin chalk 3452 ft, dr 4095 ft. Hartt Pet. Co.'s M. L. Cox 1, A. C. Nugent sur, spd and sd. Kelly O&G Co.'s Lunsford 1, J. Conner sur, A-151, dr 2065 ft. Neil McElroy et al's R. W. Murphy 1, H. Bailey sur, sd 2700 ft. Van Oil Assn.'s J. C. Tankersley 1, L. Landers sur, sd 1030 ft. Wittmer O&G Properties' R. W. Beggs 1, H. W. Raquet sur, lcn.

VAN FIELD—Cranfill & Germany, Inc.'s Swain (5-ac strip) 1, spd and sd. F. & M. Drilling Co.'s F. R. Flanigan (1-ac strip) 1, M. Gross sur, lcn. Hartt Pet. Co.'s Swain (2-ac strip) 1, spd and sd. Helms et al's C. E. Bogue 1, Marshall University sur, ele 461 ft, sd 2710 ft. Humble O&R Co.'s R. S. Blake 6, dr 2531 ft; Blake 7, dr 1275 ft; L. V. Freeman 2, rig. Pure Oil Co.'s A. D. Clark (36-ac) 6, cem cas 306 ft; Clark 7, dr 1367 ft; R. C. Crim (30-ac) 2, dr 1805 ft; Davis 1, dk; Wylie Enos (30.6-ac) 1, dr 1788 ft; R. A. Howell (47-ac) 3, rig; J. M. Martin (134½-ac) 1, dr 1685 ft; O. L. & L. L. Swain (43.8-ac) 3, cem cas 2723 ft; W. F. Swain (40-ac) 2, shut in 2924 ft; A. G. Tunnel (50-ac) 2, dr 1105 ft; Wells 5, dk; Ella York 2, top Austin chalk 2348 ft, cem cas 2611 ft. Shell Pet. Corp.'s Taylor 4. Pecan chalk 1530-1620 ft, Austin chalk 2235-2510 ft, comp flowed 105 bbls per hour via 11/16-in choke 2641-2942 ft. Sun Oil Co.'s I. W. Thompson 3, dr 1150 ft. Roy Stumpff et al's L. K. Riggs (3-ac strip) 1, elev 455 ft, dk. Vantex Oil Co.'s L. A. Smith (2-ac strip) 1, dk.

WOOD COUNTY—Wood County Dev. Co.'s Ricks 1, D. Fuller sur, sd 1000 ft.

EAST TEXAS

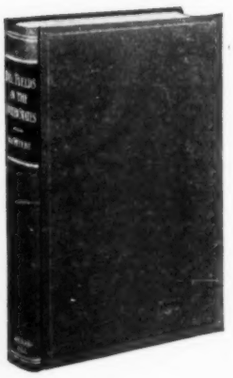
HARRISON COUNTY — Shell Rock Pet. Co.'s Daugherty 1, Burris sur, fsh ds 3568 ft.

MARION COUNTY—Trammell et al's Hussey 1, Chas. Lockhart sur, elev 282 ft, top chalk 1771 ft, claim show oil in hard chalk 1882-84 ft, driving 8-in cas 1680 ft, td 1887 ft.

PANOLA COUNTY—Knott et al's Marion Durham 1, Chas. Haley sur, 6⅝-in cas 2670 ft, set ds at 2978 ft, shut off sw, arr set liner with packer and 10 ft perforated pipe, td 2988 ft. Smith et al's Hunt 1, Albert Johnson sur, dk. Bell et al's Burnett Lbr. Co. 1, S. B. Hendrick sur, 8⅛-in cas 2027 ft, sd 2863 ft. Creighton & Hart's Kyle 1, J. Tippett sur, top chalk 1444 ft, top Blossom 2216 ft, dr lime 3601 ft. Warren & Dawes' McNeese 1, A. Booker sur, dk. Dillon & Bradham's Baldwin 1, Hampton West sur, rig. Texas La. Prod. Co.'s Baker 1, B. C. Jordan sur, 9-in 3450 ft, dr hard lime 4300 ft. Natural Gas Prod. Co.'s H. H. Alvord 1, B. C. Jordan sur, 10-in 1160 ft, dr lime 3525 ft.

SABINE COUNTY—Loring Oil Co.'s Nona Mills Lbr. Co. 1, Jas. Mason sur, td 4803 ft.

SHELBY COUNTY—Chapparral Oil Co.'s Holt 2, Matthew Moore sur, hole cleaned by going over ds with 6⅝-in cas, both of which pulled, arr resume dr td 3097 ft.



Oil Fields in the United States

By WALTER A. VER WIEBE

Professor of Geology, University of Wichita

629 pages, 6 x 9, illustrated, $6.00

A complete and systematic presentation of the fundamental facts of oil accumulation in all fields of the United States. The book describes the structural elements which account for the presence of oil, the relation of structure to production and the peculiarities of the geological setting of all oil fields in the country.

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HOUSTON TEXAS

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BIENVILLE PARISH—		
Carter & Dobbs, White 1, 9-18-6w...	*	2262
BOSSIER PARISH—		
H. I. Morgan et al, Kendricks B-11, 22-19-11	¶27	1840
SABINE PARISH—		
Lyons & Neely, Cooper 1, 32-8-11...	*	2500
C. W. Robinson, Trammell 1, 5-7-11	*	2517
W. M. Coates, Sabine 1, 1-7-12.....	*	2600
R. L. Gay, Tr., Sabine Lbr. Co. A-1, 1-7-12	72	2334
Toteco Oil Co., La. Long Leaf 1, 18-6-12	*	4387

BIENVILLE PARISH—S. P. Borden et al's Thomas 1, 27-16-9w, 7-in 4033 ft, dr hard lime 4760 ft. Carter & Dobbs' White 1, dry and abn, td 2262 ft. Cagles Bros.' Lawhon 1, 15-16-8w, cored lime and shale 2140-48 ft.

BOSSIER PARISH — Andrews & Davlin's Nattin 1, 15-22-14, 8-in cas 1471 ft, sd 1576 ft. H. I. Morgan et al's Kendricks B-11, ne nw 22-19-11, 6-in cas 1806 ft, tested 1½ mil ft gas 1806 ft, tested show gas in lime 1826 ft, gauged 27,144,000 ft gas 960 lbs r.p., td 1840 ft in sand. Rambaugh et al's Allison 1, 10-19-13, dry 1100 ft, arr deepen.

CADDO PARISH—Texas La. P. L. Co.'s Wall 1, 33-23-16, dr lime and anhydrite 4868 ft. French 1, sw nw 34-23-16, 7-in cas set 5102 ft, td in anhydrites 5157 ft. Junior O&G Co.'s Breard 1, 9-18-16, dr 1900 ft. Libby et al's Foster 1, 29-15-16, sd 1600 ft.

CATAHOULA PARISH — National Drilling Co.'s Marsh McMillan 1, 26-9-6e, set 6⅝-in cas 2796 ft, dr 3015 ft.

CLAIBORNE PARISH—Baird Bros. et al's Whittaker 1, 30-20-7w, sd 2200 ft. Bough et al's Alexandria 1, 27-20-8w, sd 2200 ft. Prairie O&G Co.'s F. B. Shackelford 1, elev 226 ft, se ne 30-23-5w, 12½-in cas 611 ft, top Blossom 2729 ft, top anhydrites 3889 ft, 9-in cas 3918 ft, dr anhydrites 3945 ft. La. O. R. Corp.'s Langston 10, 19-21-7w, slip recovered, cemted cavity 1663 ft.

CALDWELL PARISH—Hudson et al's Burton 1, 36-12-2e, dr 2520 ft.

CONCORDIA PARISH — La. G&F Co.'s Saunders 2, 42-8n-10e, 12½-in cas 182 ft, coring 935 ft. Joe Marr et al's Maxwell 1, 35-3-8e, sd 3622 ft.

DE SOTO PARISH—J. W. Clark's Tidwell 1, 22-13-14, 6⅝-in cas 2910 ft, tested sw, show oil and gas 3130 ft, plugged back to 3125 ft, did not shut off sw, sd old td 3130 ft. W. H. Weichert's H. Smith 1, 31-14-15, top gas sand 1653 ft, top chalk 1901 ft, sd in hard chalk 2123 ft. Standard Oil Co. of La.'s Hoell 1, 32-14-13, sp 10-in 82 ft, dr 732 ft. Neff et al's Dowling 1, se se 18-13-14, dr 1380 ft. Ramsey 1, 33-13-16, dk. S. A. Guy et al's Dowling Bros. 1, 31-14-14, sd 1354 ft.

LA SALLE PARISH—La. G&F Co.'s Tensas Delta B-2, sw ne 23-7-4e, 12½-in 163 ft, set 9-in 982 ft.

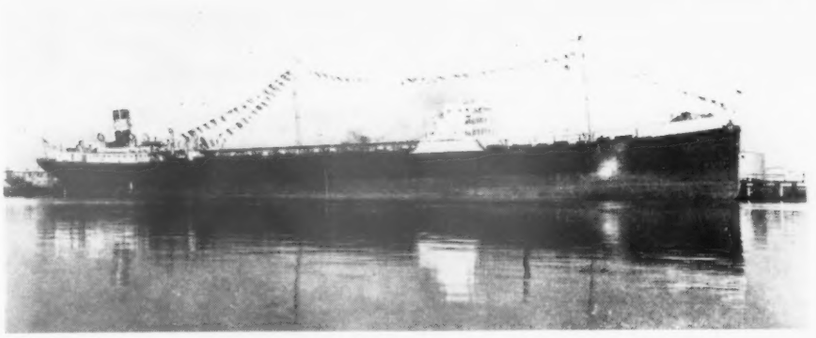
NATCHITOCHES PARISH—C. M. Talley et al's C. M. Talley 1, 29-11-10, dk. Gulf Ref. Co.'s Bodcaw Lbr. Co. 1, sw ne 13-13-8w, 12½-in 930 ft, dr hard chalk 1940 ft. W. M. Coates et al's Collins 1, 28-9-10, base chalk 2612 ft, sd 3718 ft. J. W. Cooper et al's Cooper 1, 35-11-10, dr 2250 ft. Cooper 2-A, 35-11-10, now using heavy rig top chalk 1400 ft, dr chalk 1421 ft.

RED RIVER PARISH—Lucky Strike Oil Co.'s Chaffraix 1, 33-12-10, sd 3010 ft.

SABINE PARISH—Pearce, Tr.'s Pearce 1, sw nw 10-7-11, 10-in 107 ft, dr 2250 ft. Lawrence et al's Hubley 1, 21-7-11, sd 2650 ft. J. C. Walton's Sabine 1, ne nw 11-7-12, dk. Loring Oil Co.'s Bowman-Hicks 15, 2-7-12, lcn. McDaniels et al's Batson 2, 16-8-12, 6⅝-in cas 2190 ft, dr, show oil, sd 2565 ft. Lacey Jesup Oil Co.'s Brown Lbr. Co. 1, se ne 28-8-10, 6-in 2256 ft at top Zwolle marl, top chalk 2690 ft, sd 3160 ft. Lacey Pet. Co.'s Cooper 1, 30-8-11, top Zwolle chalk 2306 ft, 6⅝-in cas 2270 ft, 1200 ft oil in hole, wosr, td 2620 ft. Lyons & Neely's Cooper 1, nw sw, 32-8-11, dry abn td 2500 ft. Eylers O&G Co.'s Fraser 1, nw sw 10-8-11, elev 317 ft, top Zwolle marl 2160 ft, 8¼-in cas 2150 ft, tested dry 2650 ft, sd 2650 ft. Magnolia Pet. Co.'s Lucius 1, 2-3n-12w, rig. R. L. Gay, Tr.'s Bowman-Hicks 9, ne sw 18-7-13, 6⅝-in cas 2187 ft, settling liner, arr test 2683 ft. Sabine Lbr. Co. A-1, se nw 1-7-12, set 4¼-in cas top Zwolle marl 2290 ft, top bro chalk 2324 ft, flowing 72 bbls oil day through 2-in tube, td 2334 ft. D. H. Reddick et al's Scretchfield 1, 18-9-12, sd 3310 ft. Pelican Nat. Gas Co.'s La. Long Leaf 7, nw sw 10-7-11, set 6⅝-in cas 2320 ft. Sabine Lbr. Co. 7, 11-7-12, top marl 2325 ft, 6-in 2320 ft, dr 2331 ft. P&G Oil Co.'s Williams 1, 21-7-12, rig. T. G. Shaw's Sabine 1, 1-7-12- 10-in 80 ft, 6⅝-in cemtd 2324 ft. Essco Pet. Co.'s La. Long Leaf 1, 35-8-11, 6-in 2346 ft, cor 2350 ft. Trans-America Oil Co.'s Carter 1, 36-8-12, top Zwolle Marl 2211 ft, 6-in cas 2211 ft, 60 ft oil in hole, wo, td 2515 ft. Philp et al's Turner 1, nw nw 4-7-11, lcn. Texas Co.'s Stokes 1, nw se 10-7-11, 6-in 2368 ft, blg to test, td 2550 ft. Longoria et al's Belton 1, 31-9-12, rig. Franks et al's Hays 1, 22-8-11, arr set 6-in 2211 ft. Towery Drilling Co.'s Sabine 1, 12-7-12, 6-in top marl, 2335 ft, flowing intermittently by heads, setting 2-in tubing, td 2436 ft. D. M. Lide's Ponder 1, 15-7-11, top marl 2393 ft, top chalk 2407 ft, 6-in 2385 ft, sd 2800 ft. W. M. Coates' Sabine 1, 1-7-12, 6⅝-in cas 2185 ft, dry abn td 2600 ft. Wilson & Sons' Gandy-Garrett 1, 4-5-13, ur 8-in cas 1932 ft. Toteco Oil Co.'s La. Long Leaf 1, 18-6-12, 6⅝-in cas 3965 ft, dry abn td 4387 ft. Tom David's Smith 1, 27-8-10, sd 2150 ft. Merritt et al's La. Long Leaf 1, 33-8-11, 6-in 2294 ft, sd 2500 ft. Tarver et al's Baker 1, nw ne 36-8-12, top marl 2209 ft, 8-in 2212 ft, top chalk 2224 ft, dr 2800 ft. C. W. Robinson's Trammell 1, ne ne 5-7-11, 6⅝-in cas top marl 2241 ft, top chalk 2317 ft, dry abn td 2517 ft. Jno. Woodley's Sabine 1, ne se 12-8-12, 10-in 103 ft. H. W. Perritt's Bowman-Hicks 1, 2-7-12, 6-in 2230 ft, hfo, wosr, td 2388 ft. Triangle Pet. Co.'s Sabine 1, sw sw 36-8-12, 10-in 150 ft, cemtd 6⅝-in cas 2274 ft. Diffie & Barrett's Lites 1, se nw 34-8-11, 10-in 105 ft. Frank Melat's Sabine 1, ne sw 6-7-11, 10-in 106 ft. Sabine 2, ne nw 14-7-12, cemtd 6-in 2250 ft. Loring Oil Co.'s Bowman-Hicks 15, 2-7-12, lcn. J. M. Thompkins' Stoker 1, 10-7-11, dk.

TENSAS PARISH—Seip et al's Fowler 1, 10-10-10e, sd 905 ft. A. R. Willis' Curry 1, 39-11-12, sd 2780 ft.

WEBSTER PARISH—Gerhig Co.'s Miller 1, ne sw 16-18-10, 12½-in cas 200 ft, base chalk 2070 ft, coring 2950 ft. D. H. Coyle's Frazier 1, ne se 27-23-11, dk. Cassidy & Davis' Nickerson 1, ne sw 29-23-10, dk.



The S.S. W. S. Farish, new tanker of the Standard Shipping Company fleet, and namesake of the president of Humble Oil & Refining Company, recently docked at Baytown on the Houston Ship Channel after her maiden voyage from New York, and took on a cargo of fuel oil for the return voyage to New York. Baytown is a refining and shipping center of Humble Oil & Refining Company.

While the vessel was there she was inspected by Mr. Farish and a group of other Humble Oil & Refining Company officials.

Embodying the latest improvements in modern steamship construction, the W. S. Farish has a displacement of 25,750 tons, has cargo capacity of 154,050 barrels, and is designed for speed of 11 knots. The overall length of the vessel is 544 feet, moulded breadth 74 feet, and moulded depth 40 feet 6 inches. She is a single screw vessel, and is designed to carry her dead weight of 19,000 tons on a draft of 29 feet, 2 inches.

The tanker provides marked economies in amount of fuel oil consumed per horsepower developed. She is unusual in having an all-electrically operated engine room, as well as deck auxiliaries. The steering gear is of the hydro-electric type, and the vessel is fitted with an Oertz streamline rudder. She is equipped with complete radio apparatus, radio direction finder, gyro compass, and automatic steerer. Fathometer sounding apparatus is to be part of the regular equipment.

ALABAMA

HOUSTON COUNTY—J. R. Sealey's Fee 1, 13-1n-27e, sd 3100 ft.

MORGAN COUNTY—Albany-Decatur O&G Co.'s English 1, 6-6-4, sd 4130 ft.

SUMTER COUNTY—B. W. Bates' Fee 1, 3-18-1w, td 1200 ft; Fee 2, 3-18-1w, rig up, wo.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, sd in limey shale 881 ft. Hobson Bros. 1, 9-8-2w, sd 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2w, sd 700 ft.

MISSISSIPPI

Completion

Company, Well and Location	Initial Production Bbls.	Depth
MADISON COUNTY—		
Miss. Pet. Co., Raymond 1, 32-7-2e	*	706

ALCORN COUNTY—Alcorn Pet. Co.'s Matthews 1, se se 14-2s-7e, sd wo fsh tools td 2735 ft.

ATTALA COUNTY—Ark. La. P. L. Co.'s Moore 1, se nw 2-15n-5e, elev 271 ft, top Selma chalk 2277 ft, base chalk 3028 ft, tested sw in gravel at 3772 ft, arr abn.

CLAY COUNTY—Ohio Oil Co.'s Cantrell 1, ne ne 16-15-15e, elev 270 ft, 13⅜ cas 1389 ft, dr hard sand rock 2701 ft.

COVINGTON COUNTY—(Collins Dist.)—Miss. Gulf O&G Co.'s Pope 1, nw ne 35-8n-16w, cem 12½ cas 126 ft, dr 200 ft. S. P. Borden et al's McIntosh 1, sw ne 5-8n-16w, materials.

CHICKASAW COUNTY — Hightower & Golsan's Fleming 1, 20-13s-3e, driving 8¼ in pipe 1562 ft.

GRENADA COUNTY—Carter Oil Co.'s Dubard 1, nw nw 18-22-4e, re-bldg dk blown down by wind.

HINDS COUNTY—(Jackson Dist.) — Mrs. Ella Rawls Reeder's State Land 1, sw nw 25-6-1e, sd 2905 ft. Jackson O&G Co.'s Central Cotton 1, sw nw 3-5-1e, dk. Love Pet. Co.'s Maley 1, se nw 15-5-1e, elev 257.3 ft, top Midway shale 2387 ft, top Midway chalk 2437 ft,

6⅝ cas 2487 ft, flowing thru two 4-in lines making est 50 bbls heavy gray oil, 1,000 bbls sw, 3 mil ft gas 2495 ft, (1,000-2,000 bbls oil in earthen storage). Pirtle & Flint's Negro Fair Assn. 1, nw se 28-6-1e, top Midway shale 2420 ft, 6-in cas 2379 ft, cem 4¼-in cas top Midway chalk 2498 ft. Southern Pet. Co.'s Wilson 1, se ne 23-6-1e, spd. Miss. Pet. Co.'s Solvent 1, sw sw 14-5-1w, top Midway shale 2970 ft, dr 3050 ft. Howard Oil Co.'s Jackson College 1, nw nw 9-5-1e, spd. Atkisson et al's Wiggins 1, nw ne 23-6-1e, top Midway shale 2392 ft, cem 6-in cas at top Midway chalk 2490 ft, dr in; Downey 1, ne ne 27-6-1e, rig. Kennedy et al's Fee 1, ne ne 34-6-1e, lcn. Gulf Ref. Co.'s McLaurin 1, sw ne 30-6-2e, top Midway shale 2392 ft, wo dr plug in 9-in cas set at 2466 ft. Cane River O&G Co.'s Kabbes 1, ne sw 15-5-1e, elev 262 ft, top Midway shale 2435 ft, top chalk 2541 ft, 7-in cas 2541 ft, dr red beds 3100 ft. Love et al's Ridgeway & McGahee 2, 2-5-1e, rig. Iowa Gas Co.'s Payne 1, nw nw 15-5-1e, sdtr ds at 1297 ft. Miss. Pet. Co.'s Baptist Orphanage 2, ne se 28-6-1e, rig. Feazel O&G Co.'s Garrett 1, se nw 2-5-1e, dk.

JASPER COUNTY—(Bay Springs Dist.)—Bay Springs Pet. Inc., J. H. Keyes 1, nw ne 21-2n-10e, set 15½ cas 104 ft.

KEMPER COUNTY — DeKalb Dist.)—W. W. Jones' Rosenbaum 1, lcn not given, dk.

LA FAYETTE COUNTY—F. E. West et al's May 1, 22-10-1w, rig up wo.

MADISON COUNTY—(Jackson Dist.)—Miss. Pet. Co.'s Raymond 1, nw sw 32-7-2e, 12½ cas 706 ft, dry and abn, td 706 ft. Central O&G Co.'s Cameron 1, se se 11-9n-1e, spd setting 10-in cas 200 ft (planned for 4,000 ft test).

MONROE COUNTY — (Amory Dist.) — Amory Dev. Co.'s Bourland 1, sw ne 2-13-19, all cas pulled and hole cleaned, arr ream out to re-run cas and to install rotary rig, td 3007 ft, in brown sand. P. J. McAlpine's Cowart 1, ne sw 2-12-19, 10-in cas 694 ft, sd in red limerock 1125 ft. Associated Royalties' School Board 1, sw sw 16-15-17, sd 60 ft. Amory Pet. Corp.'s Harris 1, nw nw 18-13s-17w, dk; Carter 3, se se 7-13s-17w, 10-in 564 ft, 6⅝ cas 2382 ft, tested est 250,000 ft gas, may deepen, td 2386 ft.

NESHOBA COUNTY—(Philadelphia Dist.)—Collins et al's Carter 1, se se 29-11n-12e, dk.

RANKIN COUNTY—(Jackson Dist.)—Feazel O&G Co.'s Cox 1, se ne 12-5-1e, top Midway shale 2296 ft, set 6⅝ cas 2371 ft, top Midway chalk 2388 ft, lost returns td 2392 ft. Sabine O&G Co.'s Rankin Dev. Co. 1, sw ne 6-5-2e, elev 273 ft, top Midway shale 2437 ft, top chalk 1548 ft, sd 2548 ft. Gulf Ref. Co.'s Hamilton Est. 1, sw sw 4-5-2e, elev 284 ft, top Midway shale 2537 ft, top Midway chalk 2620 ft, 9-in cas 2610 ft, top red beds 3059 ft, coring red beds 3730 ft. Love et al's Muse 1, se se 32-7-4e, pulling 12½ cas to be relanded at 600 ft, td 605 ft. Love Pet. Co.'s Moore 1, se nw 28-6-2e, sd 900 ft. Millstein O&G Co.'s Gammill-Hartfield 1, sw se 6-5-2e, top Midway shale 2410 ft, top chalk 2496 ft, set 7-in OD cas 2476 ft, td 2497 ft. Pearl River O&G Co.'s Pate 3, se sw 12-5-1e, elev 269.5 ft, 10-in 268 ft, dr 2000 ft. Pioneer O&G Co.'s Ragland 1, sw sw 12-5-1e, dk. Ganzel et al's Stalling 1, ne ne 25-5-1e, dk. Miss. Gas & Fuel Co.'s Hanna 1, sw ne 14-5-1e, dk.

WARREN COUNTY—(Vicksburg Dist.)—Dixie Pet. Co.'s Clark 1, sw sw 31-17n-5e, dk. Vicksburg O&G Co.'s Dornbusch 1, 8-18n-5e, sd 1600 ft.

WEBSTER COUNTY—Cumberland Oil Co.'s Henley 1, 15-21-11, td 1865 ft.

WINSTON COUNTY—(Louisville Dist.)—Miss. Drilling Co.'s Scarbrough 1, nw nw 15-13n-14e, sd in shale 1809 ft.

YALABOUSHA COUNTY—(Water Valley Dist.)—J. D. Collett et al's Blackmer 2, sw nw 14-11s-4w rigged up ready to spd.

NORTH CALIFORNIA

KERN COUNTY

BELRIDGE—Associated's No. 21-1, 21-27-20, rig. Belridge Oil Co.'s No. 27-8, 27-27-20, dr shale 1400 ft; No. 35-8, 35-27-20, lcn; No. 35-33, 35-27-20, rigging up; No. 35-48, 35-27-20, rigging up. General Pet.'s Berry 1, 30-28-21, re-dr 2515 ft. Ohio's Bleomer 1, 36-27-20, dr shale 2420 ft. Richfield's Belridge 1, 22-27-20, dr gray sand 6015 ft. Standard's McPhail 1, 36-27-20, dr hard shale 3535 ft; McPhail 2, 36-27-20, dr shale and hard sand 1635 ft. Texas' Martin 1, 22-27-20, dr shale 3212 ft. Union's Belridge 17, 36-27-20, straightening hole, td 3000 ft; Gibson 7, 36-27-20, rig. K. C. Wallace's No. 1, 32-29-21, dr shale 4000 ft.

BUENA VISTA HILLS—Federal Drilling Co.'s No. 1, 20-31-24, dr oil sand 5230 ft, will cemt 9-in cas at 5185 ft.

BUTTONWILLOW — Nordon Oil Corp.'s Salisbury 1, 7-29-24, dr shale 6466 ft. Superior's KCL-1, 32-29-25, dr shale 2930 ft.

DEVILS DEN—Standard's Alferitz 1, 14-25-18, sdtr cemt to straighten hole, td 1534 ft.

EDISON—Petroleum Securities Co.'s Johnson-Moss 1, 24-29-29, dr shale 4200 ft.

EL TEJON—J. J. Ritchie's No. 1, 33-11-9, dr oil sand 5066 ft.

JASMINE — Chanslor-Canfield Midway Oil Co.'s Villard 1, 31-28-25, new lcn.

McKITTRICK — California Oil Producers' Wisecarver 1, 30-30-22, sdtr whipstock, td 5050 ft, may deepen.

PATTIWAY—H. A. Bardeen's Ramsey 1, 10-10-23, sd 4355 ft.

SEMITROPIC—Shell's Williams 1, 17-27-23, dr hard sand 8735 ft.

WASCO—Cities Service Pet. Co.'s Core Hole 1, 26-28-24, dr shale 759 ft.

WEED PATCH—Mohawk Oil Co.'s Wharton 1, 32-30-29, dr shale 5138 ft. Shell's Morris 1, 32-30-29, rig; Porter Day 1, 29-30-29, dr sand and shale 6575 ft; Porter Day 1, 29-30-29, dr hard sand and streaks shale 4735 ft.

SANTA BARBARA COUNTY

CAMPBELL'S POINT — Bolsa Chica Oil Corp.'s Augur 1, dr out cemt below 9-in cas at 4020 ft, td 4030 ft, making gas but no oil on test. Cuyama Valley Oil Corp.'s No. 1, 12-10-27, rigging up rotary. Federal Drilling Co.'s No. 1, 27-9-26, new lcn.

GATO RIDGE—Barnsdall's Tegnazzini 1, 9-8-32, dr shale 5950 ft.

GOLETA—General Pet.'s More 3, dr brown shale 3690 ft.

LOS ALAMOS—N. S. Wilson's No. 1, 2-7-33, 12½-in cas cemt 1790 ft, td 1800 ft.

ORELLA—General Pet.'s Erburu 8, 32-5-30, dr shale 3900 ft. Prairie Oil & Gas' El Capitan 1, dr 150 ft.

POINT CONCEPCION—Standard's Gerber 1, fsh for dr pipe, td 6820 ft.

PURISIMA — Vaqueros Major Oil Co.'s Union Annex 2, pumping oil and water, td 3400 ft, may plug back.

SANTA MARIA—O. C. Field Gasoline Co.'s Bradley 1, 5-9-33, co 5267 ft. Western Gulf's Bradley 1, 5-9-33, dr shale 4830 ft.

VENTURA VALLEY

HOPPER CANYON — George H. Hadley's No. 1, 13-4-9, dr hard sand 1020 ft.

OJAI—Knudsen and Schmidt's No. 1, 12-4-23, dr hard sand 550 ft.

PIRU—Torrey-Ventura Oil Co.'s No. 1, 32-3-18, ready to sp.

RINCON — Chanslor-Canfield Midway Oil Co.'s Hobson A-2, 23-3-24, m 7475 ft, td 7521 ft. Continental's Grubb 1, 23-3-24, lcn.

SANTA MONICA MOUNTAINS—Olympic Corp.'s Calabasas 1, 18-1-17, fsh 5670 ft.

SANTA PAULA—George C. Thompson's No. 1, 15-4-21, dr out cemt, td 2580 ft.

SESPE—Merchants Pet. Co.'s Cochran 1, 1-4-20, dr shale 100 ft. Superior's Kirtlan 1, 15-4-21, dr shale 3869 ft.

VENTURA—Prairie O&G Co.'s Sexton 1, 30-3-22, dr shale 7940 ft.

MISCELLANEOUS

FRESNO COUNTY — Amador Soalition Mines' No. 1, 26-20-14, sp. Associated's Mitchell 1, sr 3600 ft.

KINGS COUNTY—L. W. Seymour's No. 1, 10-23-16, dr hard sand 1025 ft. T. H. Purman's Avenal 1, 36-23-17, dr sandy shale 1200 ft. Kettleman Development Corp.'s No. 1, 11-23-19, dr shale 1100 ft. Murphy Oil Co.'s Brennan 1, 20-23-20, dr shale 2481 ft.

MENDOCINO COUNTY—Twin State Oil Co.'s Soldami 1, 14-12-17, dr shale 5406 ft.

MERCED COUNTY—Texas Pacific Coal & Oil Co.'s Core Hole 1, 4-12-11, dr shale and surface sand 1590 ft.

MONTEREY COUNTY — Standard's Piedmont 1, 23-22-7, dr gray sand 6050 ft.

SAN LUIS OBISPO COUNTY—C. J. Schillin g'sPotter 1, 1-29-12, co 865 ft. Miracle Oil Co.'s No. 1, 17-10-25, sd 125 ft. C. Shockley's Carpenter 1, 13-32-13, dr hard sand 2050 ft. Continental's Hellman 1, 26-25-11, dr shale 2545 ft. Latin-American Pet. Co.'s Whitley 1, 31-27-15, 8¼-in cas re-cemt 4505 ft. Pismo Dome Oil Co.'s Pricco 2A, dr hard sand 2963 ft.

TULARE COUNTY—Big Four Drilling Co.'s No. 1, 29-23-27, repairing 6-in cas, td 4331 ft. Ducor Drilling Co.'s No. 1, 14-24-27, sdtr junk 2180 ft. Enterprise Oil Co.'s Dennis 1, 29-23-28, dr shale 822 ft. Kettleman East Side Trust's No. 1, 21-22-27, dr shale 965 ft. W. D. McCoy's No. 1, 35-21-27, rigging up. Inland Valley Oil Co.'s Smith-Rea 1, 24-17-24, sdtr iron, td 2060 ft.

YOLO COUNTY—George F. Getty's Guinda 1, 23-12-3, sd 2007 ft.

OKLAHOMA

ALFALFA COUNTY—T 27n, R 11w, Sec 12, Smith Bros' Forbes 1, ne c se nw nw, sd 1420 ft.

KAY COUNTY—T 27n, R 2e, Sec 9, Mummer et al's Sornick 1, nw c se, dr 1600 ft. T 26n, R 1w, Sec 32, Boucher et al's Jefferson 1, ne c sw, lost hole 1175 ft, to skid.

HARPER COUNTY—T 25n, R 20w, Sec 12, Empire's Bruce 1, sw c ne ne sw, show oil 7161-7173 ft, sd 7640 ft.

GRANT COUNTY—T 25n, R 4w, Sec 22, Cowden's Collmer 2, ne c se ne sw, lost tools 5640 ft, sd.

ALFALFA COUNTY—T 24n, R 11w, Sec 14, J. V. Bailey et al's Acre 1, c sw ne, show water 4649 ft, dr 4775 ft.

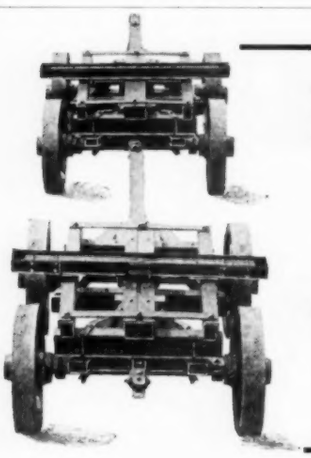
GARFIELD COUNTY—T 24n, R 6w, Sec 9, Pulse & Beamer's White 1, se c nw, sd 5825 ft.

NOBLE COUNTY—T 21n, R 1e, Sec 12, Barnsdall et al's Mich 1, nw c sw, hfw 3050-55 ft, dr 4110 ft.

BLAINE COUNTY—T 19n, R 10w, Sec 13, Washoma Pet. Co.'s Phillips 1, c nw sw, hfw 4150-60 ft, dr 4600 ft.

LOGAN COUNTY—T 18n, R 3w, Sec 33, Healy & Consolidated Drlg. Co.'s Quier 1, se c sw, sd 3970 ft.

KINGFISHER COUNTY—T 16n, R 7w, Sec



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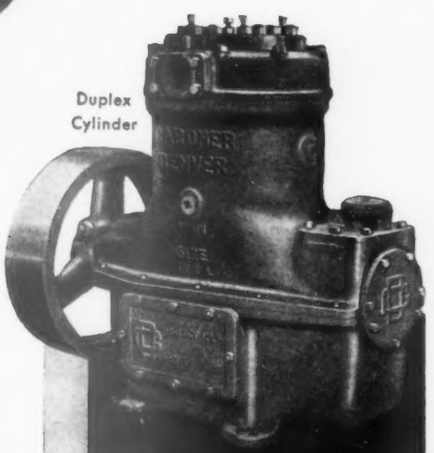

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6, Gault Brown's Boch 1, c nw se, (owd), dr 7800 ft.

KAY COUNTY—T 28n, R 3e, Sec 24, Summit Drlg Co. et al's Hays 1, nw c ne nw, fsh 1320 ft.

OSAGE COUNTY—T 28n, R 7e, Sec 4, L. G. Stanley et al 1, se c sw, fsh 1130 ft.

PAWNEE COUNTY—T 23n, R 5e, Sec 15, Cochran et al's McFadden 1, ne c sw, rig. T 22n, R 3e, Sec 26, Wentz Oil Corp.'s Lillie 1, se c sw ne, ur 6-in 3965 ft. T 22n, R 5e, Sec 2, Sherry et al's Millsap 1, se c sw, sd 1750 ft. T 20n, R 5e, Sec 6, W. A. Rookstool's Berry 1, nw ne sw, dr 1337 ft.

LINCOLN COUNTY—T 13n, R 6e, Sec 8, Atlantic's Beebe 1, sw c ne sw, lcn (may not be drilled this year.)

OKFUSKEE COUNTY—T 12n, R 9e, Sec 36, Henry Oil Co.'s Harjo 1, nw c, water 4124-57 ft, pb to 3200 ft, dry and abn. T 12n, R 10e, Sec 3, Shepperd et al's Shepperd 1, se nw sw, fsh 3690 ft.

MUSKOGEE COUNTY—T 11n, R 19e, Sec 21, E. Mills et al's Martin 1, nw c se, sd 1001 ft.

PITTSBURG COUNTY—T 9n, R 16e, Sec 32, Pattison et al's McDuff 1, sw c nw se, dr 5654 ft. T 8n, R 14e, Sec 14, C. O. Cannady's Smith 1, sw c ne nw nw, rig and tools. T 17n, R 13e, Sec 18, Apex Oil Co.'s Haskett 1, esl se nw, 2M gas 975-1095 ft, sd 1648 ft.

OKLAHOMA COUNTY—T 14n, R 3w, Sec 32, Mid-Kansas' Messer 1, sw c, sand 6690-6771 ft td, flowed 425 bbls after shot of 190 qts; now shut in. T 12n, R 4w, Sec 17, C. F. Cuniff, Trustee's Orphanage 1, sw c ne sw se, sd 6700 ft td.

McCLAIN COUNTY—T 7n, R 2w, Sec 22, Prairie & Slick's Perkinson 1, sw c nw, dr 6320 ft.

CLEVELAND COUNTY—T 6n, R 1e, Sec 20, Harris & McNeal's Corbett 1, c sw ne, td 6518 ft, sd, 4500 ft fluid in hole.

OKFUSKEE COUNTY—T 11n, R 8e, Sec 11, Carter et al's Keys 1, sw ne sw, sand 4214-25 ft, pb to 4028 ft.

POTTAWATOMIE COUNTY—T 10n, R 4e, Sec 10, Shell's Baker 1, nw c se, lcn.

SEMINOLE COUNTY—T 10n, R 6e, Sec 19, Bunte et al's Bruner 1, se c c nw, rig.

POTTAWATOMIE COUNTY—T 7n, R 3e, Sec 19, Poppleman et al's Fundis 1, se c ne, dr 5180 ft. T 6n, R 5e, Robinson-Hicks' Crouch 1, nw c sw, sand 4266-72 ft, swab 200 bbls, sand 4389-4404 ft, pb to 4393 ft, swab 275 bbls.

ROGER MILLS COUNTY—T 13n, R 21w, Sec 10, Richfield O&R Co.'s Hiatt 1, se c, rig. T 12n, R 24w, Sec 23, Ute Oil Co. et al's Williams 1, c sw, dr 2545 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec 1, J. V. Bailey's Robinson 1, c ne nw, sd 150 ft.

CADDO COUNTY—T 9n, R 13w, Sec 18, J. J. Wright-Shell's Boys 1, ne c lcn.

WASHITA COUNTY—T 8n, R 19w, Sec 29, Snodgrass et al's Blocker 1, nw c, td 135 ft. T 8n, R 18w, Sec 21, Burns & Prince's Codk 1, sw c, rigged up and sd.

GREER COUNTY—T 7n, R 22w, Sec 1, Roy Good et al's Cliffel 1, nw c, sd 1465 ft. T 7n, R 21w, Sec 23, H. A. French et al's Murphy 1, sw nw se, sd 720 ft.

HARMON COUNTY—T 4n, R 24w, Sec 17, Harmon-Tex Oil Co.'s Headley 1, ne c, show oil and gas 2374-92 ft, sd 2593 ft.

COMANCHE COUNTY—T 3n, R 9w, Sec 3, Okla. Nat. Gas Co.'s Doeble 1, ne c sw sw sw, sd 1450 ft.

JEFFERSON COUNTY—T 7s, R 6w, Sec 35, Brown & Gouin's Cox 1, sw nw ne, dr 1495 ft.

HUGHES COUNTY—T 5n, R 10e, Sec 30, Erwin et al's Jones 1, se c ne, td 4775 ft, pb to 4270-75 ft, shot 40 qts, will pb to 1900 ft and shoot. T 5n, R 11e, Sec 15, J. J. Wright's Roberts 1, se c sw, 2M gas 915-18 ft, sd 1645 ft.

GARVIN COUNTY—T 2n, R 2w, Sec 24, Malernee Oil Co.'s Phillips 1, ne c sw, lcn.

COAL COUNTY—T 2n, R 8e, Sec 10, Whitney et al's Miller 1, se c ne ne, dr 550 ft.

ATOKA COUNTY—T 3s, R 10e, Sec 18, Brookshire et al's Guinn 1, nw c, show gas 360-72 ft, sd 500 ft.

CARTER COUNTY—T 4s, R 2e, Sec 32, Tex-Okla. Drlg. Co.'s Anderson 1, se c ne se, td 2580 ft, dr by pipe 2580 ft.

LOVE COUNTY—T 6s, R 3w, Sec 20, Harry Hobbs' Steele 1, sw c ne ne sw, sd 3130 ft.

BRYAN COUNTY—T 6s, R 7e, Sec 14, W.

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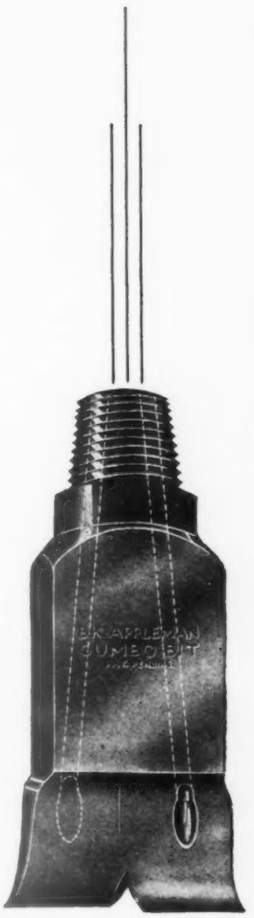

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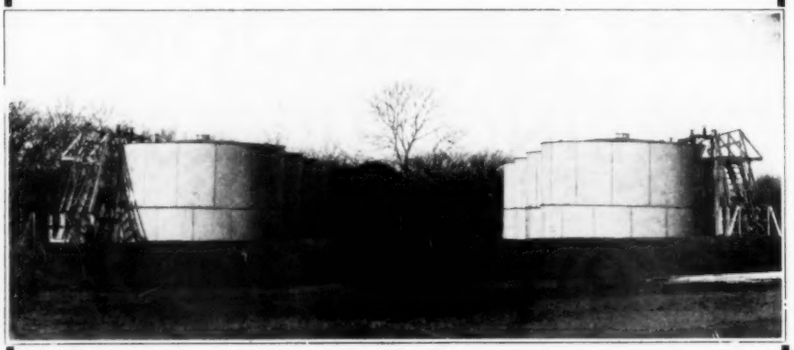

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SOUTH CALIFORNIA

Completions

Company, Well and Location	Initial Production Bbls.	Depth
NEWHALL—		
Southern California Drlg. Co., Needham 4, 13-3-16	*	3505
SANTA FE SPRINGS—		
Union, Orchardale 1-1, 10-3-11	*	6375
WILMINGTON—		
Rio Grande, Watson 1, 17-4-13	*	6297

ALHAMBRA—George Wolfe's No. 1, 24-1-13, 13⅜-in cas re-cemt 1115 ft, td 1257 ft.

ATHENS — McKeon Oil Co.'s Sunny Side Heights 1, 1-3-14, dr shale 1633 ft.

BELL—Cudahay Community Oil Ass'n's No. 1, 30-2-12, dr shale 128 ft.

CORONA—Western Gulf's Abacherli 1, 12-3-8, dr shale 1155 ft.

CULVER CITY—Olympic Oil & Gas Co.'s No. 1, 14-2-15, fsh for bit 4837 ft. Taylor Oil Co.'s No. 1, dr shale 3997 ft.

EL MONTE—Rancho Oil Corp.'s Harmon 1, 3-1-11, sp.

FULLERTON—Standard's Bastanchury 1, 21-3-10, dr shale 7345 ft.

HAWTHORNE — C. L. Wood Synd.'s No. E-1, 10-3-14, sd 1960 ft.

HERMOSA — California Ventura Oil Co.'s Sadler 2, 31-3-14, rigging up to pump, td 3328 ft; Union Rock 3, rig. Smith Pet. Co.'s No. 1, lcn. George Wolfe's Hermosa 1, ready to sp.

MANHATTAN BEACH—Beverly Hills Pet. Corp.'s No. 1, ready to sp.

MONTEREY PARK—Celito Oil Co.'s Jepson 1, 25-1-12, swabbing, td 5277 ft.

NEWPORT—T. F. Gesell's No. 1, 29-6-10, rigging up rotary. Standard's Irvine 1, 26-6-10, dr shale and hard sand 3126 ft.

OLIVE—Texas' Olive Community 7-4-9, dr gravel and surface sand 300 ft.

PLAYA DEL REY—West Port Oil Co.'s No. 1, 27-2-15, dr shale 5480 ft.

PUENTE HILLS—Bardeen Oil Corp.'s Barnadette 1, 2-2-10, dr shale 1200 ft. C. F. Shannon's No. 1, 3-2-10, placing on pump, td 4620 ft. Vega Pet. Corp.'s Rowland 1, dr shale 1915 ft.

REPETTO HILLS—Texas' Bicknell 1, 4-2-12, lcn.

SAN FERNANDO—Mack Oil Co.'s Deer Lake 1, 6-2-16, lcn. San Val Oil Co.'s No. 1, 14-1-16, dr shale 1212 ft. Shell's Andrews 1-1, 19-2-15, dr shale 5978 ft.

SANTA MONICA—Hines Pet. Corp.'s No. 1, 8-2-15, rigging up rotary.

SAN JUAN CAPISTRANO—Okay No. 2's Foster 2, 13-8-8, dr hard sand 5180 ft.

TORRANCE—C. M. Sheeley's No. 1, 12-4-14, rig.

WILMINGTON — Wilmington Consolidated Oil Co.'s No. 1, rig.

ARKANSAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CLAY COUNTY—		
S. C. Jeffus, Tr., Underwood 1, 4-20-8	¶1½	330
JOHNSON COUNTY—		
River Valley Dev. Co., Collier 1, 21-9-25	¶1½	1982
OUACHITA COUNTY—		
Graves et al, Walker, Tr., 9-14-18	*	2020
UNION COUNTY—		
J. E. Crosbie, Inc., et al, G. L. Murphy 1, 13-16-16	*	3575

CHICOT COUNTY—H. R. Smith's Lytle 1, 31-18-3, sd 2925 ft.

CLAY COUNTY—S. C. Jeffus, Tr.'s Underwood 1, nw se 4-29-8e, 10-in cas 303 ft, gauged 1¼ mil ft gas, td 330 ft; Underwood 2, 4-29-8e, dr 282 ft (60 ft north of No. 1.)

CLEBURNE COUNTY—Donnell et al's Fee 1, 33-11-9, swedging cas at 2300 ft, td 3740 ft.

DALLAS COUNTY—John James, Tr.'s, Fordyce Lbr. Co. 1, nw ne nw 11-9s-15w, dk. E. C. Brewer, Tr.'s, Hillman 1, se ne 20-10-13, 10-in cas 88 ft, dr bldrs and shale 1130 ft.

FRANKLIN COUNTY—Red Bank Oil Co.'s Hamm 1, 33-10-26w, plugged back to 3050 ft, dr 3550 ft, old td 3750 ft.

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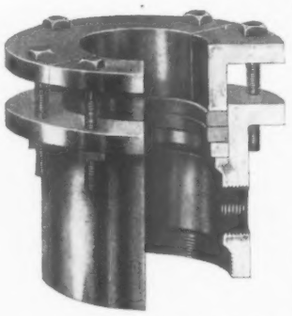

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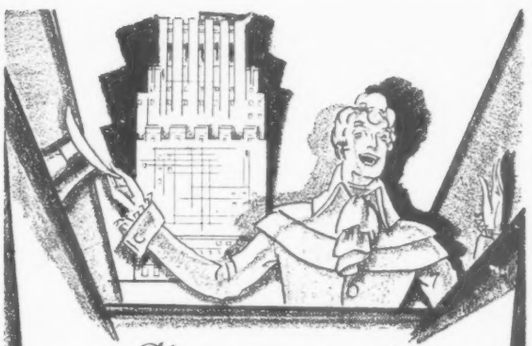

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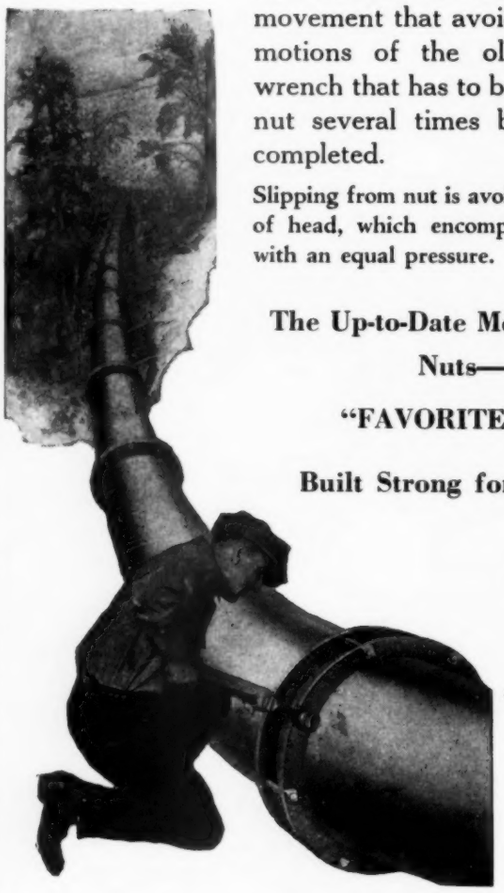

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DIAMOND CHAINS

NIKROME SHAFTS

GARLAND COUNTY—H. H. Given's Garrett 1, 1-3n-19w, cas pulled, hole full sw, sd td 3756 ft.

HOT SPRINGS COUNTY—John Watkins, Tr.'s, Cunningham 1, 11-5-16, sd 100 ft. Cleary Bros. et al's Hinson 1, 19-4s-16w, 11 ft sand, sd 1604 ft.

JOHNSON COUNTY—Ark. La. P. L. Co.'s Hudson 1, se ne 14-10-24, dr hard sand 2585 ft. Blackwell O&G Co.'s Wyver 1, 21-8-23, ta 5600 ft. River Valley Dev. Co.'s Collier 1, se se 21-9n-25w, gauged 1⅓ mil ft gas at 1250 ft, td 1982 ft.

LA FAYETTE COUNTY—Crawford Drilling Co.'s Vaughan 1, 25-19-25, rig. McIver et al's Hattle 1, nw ne 1-20-26, sd 20 ft.

LAWRENCE COUNTY—Marguerite Dev. Co.'s Broadway 1, 31-17-1, sd 45 ft.

LITTLE RIVER COUNTY—Buck Oil Co.'s Taafe 1, 25-12-32, ds stuck at 2100 ft, td 2502 ft (corrected depth.)

LOGAN COUNTY—Ark. La. P. L. Co.'s Jno. Jansen 1, ne ne 35-8-24, set 13⅜-in cas 343 ft, dr sand 2335 ft. M. W. Greesom's Parks 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-5-26, ur 5 3/16-in cas 3570 ft, td 3610 ft.

MADISON COUNTY—J. W. Baxter's Hallem 2, cemt sec 17-16-26, sd 405 ft; Hallem 3, ne sw 1-17-26, sd 42 ft.

MILLER COUNTY—E. & F. Oil Co.'s E. L. Beck 1, 36-15-26, set 6⅝-in cas 2792 ft, sd with junk in hole, td 2961 ft. Lenz et al's Johnson 2, 24-15-26, cored sand, show oil at 3600 ft, sd 3600 ft; Johnson 3, ne nw 24-16-26, sd 2850 ft. Bullock Oil Co.'s Hervey 1, 2-15-26, cored sand at 2606 ft, sd 2606 ft. East Texas O&G Co.'s Hervey 1, 2-15-26, sd, wo, 8-in cas 900 ft. Gusher Bend Oil Co.'s Adams 1, nw nw 26-14-26, set 10-in cas 115 ft. O'Mara et al's Person 1, 31-15-25, lcn. Fitzwater et al's Beck 1, sw se 33-15-26, 10-in cas 85 ft. Salzer & McRae's Rose 1, ne nw 9-16-26, 10-in cas 98 ft, sd 475 ft.

OUACHITA COUNTY — Belmont et al's Dean 1, 16-15-17, top red beds 2765 ft, sd with junk in hole, td 2907 ft. A. B. Turner, Tr.'s, Brown 1, 23-15-18, 6⅝-in cas 2164 ft, dr 2670 ft. Graves et al's Walker, Tr. 1, sw sw 9-14-18, top Nacatosh 1352 ft, 6⅝-in cas 1845 ft, sw, abn td 2020 ft. Copenhaver et al's Elliott 1, se se 11-15-17, ds stuck 2114 ft. Wesson & Bonner's Wesson 1, sw nw 22-15-19, 6⅝-in cas at bottom hole, td 2083 ft. J. D. Reynolds' Pace 1, ne se 21-15-19 (Stephens townsite), sp, dr 20 ft.

PIKE COUNTY—Henderson et al's Tilyou 1, 26-8-24, show heavy oil 567 ft, dr 1850 ft, (no recent report). E. R. Henderson's Lee 1, sw se 31-8s-24w, dk.

POPE COUNTY—Ark. La. P. L. Co.'s McFadden & Brooks 2, ne nw 15-9-21, 13⅜-in cas 1900 ft, dr broken sand 2975 ft.

SCOTT COUNTY — Heavener O&G Co.'s Reser 1, 36-4-26, sd 1536 ft. Ark. Valley Gas Co.'s Turner 1, se se 27-5n-30w, lcn.

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29w, sd after test sw 3515 ft. Lavaca O&G Co.'s L. Wright 1, 29-8-30, dr 2820 ft.

UNION COUNTY—Hickman et al's Hogg 1, 35-16-17, top Graves sand 2351 ft, top red beds 2779 ft, dr 2870 ft. Oilfields Corp.'s J. A. Simmons 1, nw nw 13-18-13, ta 3602 ft. Rice et al's Whatley 1, 7-17-15, sd 1520 ft. J. E. Crosbie, Inc., et al's G. L. Murphy 1, sw nw 13-16-16, junked, abn td 3575 ft in shale with 960 ft 4-in ds in hole (originally intended for 4500-foot test). H. L. Hunt, Inc.'s Swilley 5, ne ne 28-16-16, 6⅝-in cas 2678 ft, 2000 ft oil, traces sw in hole, wosr td 2689 ft; Swilley 6, se se 21-16-16, 1000 ft fluid in hole 40 pct sw, wosr td 2711 ft. Marine Oil Co.'s W. B. Thompson B-3, se ne 10-18-13, sp, 10-in cas 292 ft, dr 1300 ft. Southern Prod. Co.'s Wingfield 1, se nw 16-19-15, 10-in cas 210 ft.

WASHINGTON COUNTY—Taylor et al's Runny 1, 1-13-29, sd 1702 ft. Lincoln Lease Holding Synd.'s Townsite 1, 30-15-32, ta 1500 ft. C. H. Willoughby's Jones 1, 34-16-30, sd 2150 ft. O'Hara & Shetterley's Boyd 1, 12-16-32, ta 850 ft. Delbert Graves' Cunningham 1, 14-15-32, sd in gray sand 602 ft.

VAN BUREN COUNTY — J. S. Martin's Scanland 1, 5-9-13, sd 50 ft.

YELL COUNTY—T. Luckett's Balcon 1, 36-7-21, sd while fsh tools, td 5710 ft.

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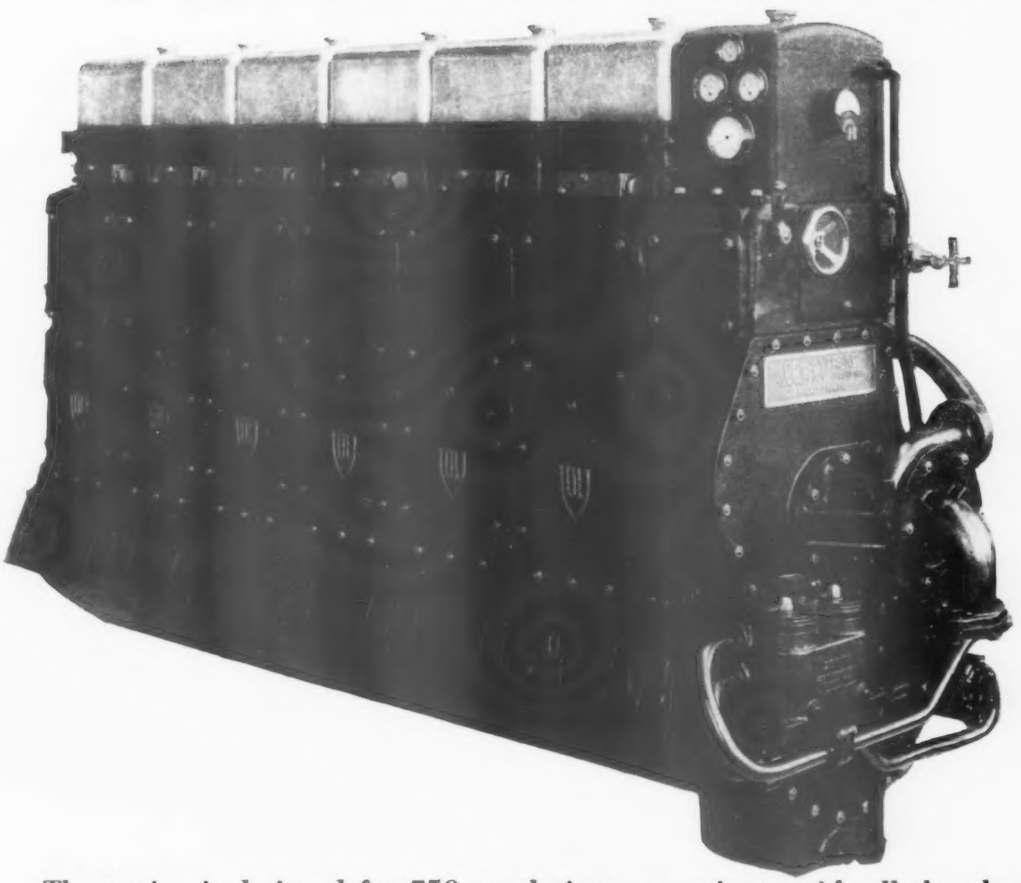

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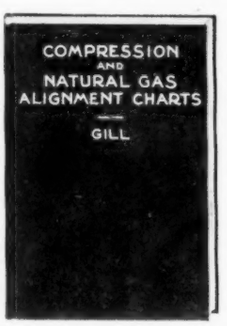

The charts in this book have been found useful in solving field problems arising in connection with the measurement, compression and transmission of natural gas, and in the manufacture of natural or casinghead gas. As many of the formulas in common use in natural gas operations are of an impirical nature, with constants that must be evaluated under varying conditions, it will be found that alignment charts are sufficiently accurate for nearly all purposes except for metering large quantities of gas, and here they serve as an excellent check on other calculations. Contains 41 charts, 65 problems. Price $3.50 Postpaid.

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AUSTIN COUNTY—Ark. Nat'l Gas Co.'s Machemehl 1, 2½ mi n Bellville, sd. O'Hara et al's Schrader 1, shale 2800 ft. Empire G&F Co.'s Kunze 1, San Felipe, w.o.c.

BRAZORIA COUNTY—Thos. Faust et al's Fee 6, 2 mi n Nash Dome, coring 5430 ft. Steele & Strickland's Lochridge 1, Lochridge, sd. Rycade Oil Co.'s Wisdom 27, Nash Dome, sn 5100 ft. Rycade & Amerada's Seaburn 2, Stratton Ridge, sd 5240 ft. Freeport Sulphur Co.'s Fee 2001, Bryan Mound, set 9⅝-in cas 4140 ft. The Texas Co.'s Ewing 1, Manvel, fsh. The Texas Co.'s Murdock 1, Fresno, shale 7235 ft. Layne et al's Wisdom 7-A, lime 2660 ft. Mills Bennett Prod. Co.'s Randon 2, rk 1500 ft; Reese 2, cap rock 2365 ft. United Oil Synd.'s Speer 1, 3 mi west Danbury, sd.

CHAMBERS COUNTY—Pure Oil Co.'s Lost Lake 5, Lost Lake, anhydrite 5790 ft; Mayes 12, Lost Lake, sdtr 2370 ft. Shell Pet. Co.'s Herff 2, Moss Bluff, w.s. 5880 ft. Chicago Oil Corp.'s Lawrence 1, 10 mi s Barbers Hill, sd. Gulf Prod. Co.'s Smith 1, lcn.

FORT BEND COUNTY—Gulf. Prod. Co.'s Davis 61, Big Creek, sd; Moore 27, shale 3350 ft. Long Point Oil Co.'s Fee 1, Long Point, gbo 400 ft.

GALVESTON COUNTY—Gulf Prod. Co.'s Smith 10, High Island, sn 5820 ft, slight o.s.

GRIMES COUNTY—Wainwright-West Oil, Ltd.'s Templeman 1, 6 mi s Navasota, wash to bottom.

HARDIN COUNTY—D. O. Speights' Gidrey 1, 4 mi s Batson, sd. The Texas Co.'s Fee 307, Sour Lake, to make ds test 3000 ft.

HARRIS COUNTY — Humble O&R Co.'s Minnetex 4, Mykawa, r 4900 ft; Gehring 1, sn 3150 ft. W. C. Turnbow et al's Miller 1, 3 mi e Deer Park, shale 6070 ft. Cypress Oil & Dev. Co.'s Kitzman 2, 2 mi n Cypress, gbo 4080 ft. Gulf States Oil Co.'s Augsperger 1, sd. Sloan Prospecting Co.'s Wasova 1, Cedar Bayou, gbo 5000 ft. Rio Bravo Oil Co.'s Settegast A-20, Pierce Junction, abn 4740 ft.

JACKSON COUNTY—Jackson Oil Synd.'s Lee 2, Edna, sd. Warner-Quinlan's Hungerford 1, Edna, ru.

JEFFERSON COUNTY—The Texas Co.'s Pipkin 4, Big Hill, set cas at 2500 ft. Humble O&R Co.'s McFadden 1, 8 mi e of Big Hill, set up boiler. Keith et al's Reed-Hankamer 1, 3 mi ne Westbury, sd.

LIBERTY COUNTY—Hamm et al's Harvard 1, Davis Hill, gbo 940 ft. J. R. Ingram's Hornbeck 1, 2 mi s Cleveland, ru. Harrison & Abercrombie's Blewett 1, N. Dayton, set 12-in cas 1440 ft. Saxet Oil Co.'s Davis 2, N. Dayton, abn 5380 ft. Harrison Oil Co.'s Quintette 4, N. Dayton, sn 3700 ft. Harrison &. Abercrombie's Jones 1, N. Dayton, sn 3890 ft. Harvey S. Smith et al's Kyerd 1, N. Dayton, abn 5700 ft. Gulf's Ezzell 1, Hankamer, shale 6340 ft. Tucker et al's Bell 1, Devers, sp in. Cranfill-Reynolds' Esperson 5, Esperson Dome, shale 5950 ft; Esperson 9, sdtr 1310 ft; Esperson 16, ru. Yount-Lee Oil Co.'s Moores Bluff 3, fsh. Gulf Prod. Co.'s McFadden 3, Moss Bluff, ru. Humble O&R Co.'s Sterling 7, Moss Bluff, dk; Breeden 2, Moss Bluff, lcn; Hylton 1, Moss Bluff, shale 6590 ft.

MATAGORDA COUNTY — Empire G&F Co.'s Boker 1, Citrus Grove, clean hole. Cockburn Oil Corp.'s Hawkins 2, Shepherds Mott, sd.

MONTGOMERY COUNTY—Price & Wilhite's Juergus 2, 3 mi Conroe, wash down. Lake Creek Oil Co.'s Hunt 1, s Conroe, sd. Rycade Oil Corp.'s Drought 1, J. Connor sur, sd.

ORANGE COUNTY—Gulf Prod. Co.'s Miller-Vidor 1, 2 mi n Vidor, dk.

VICTORIA COUNTY—Lion Oil Ref. Co.'s McFadden 2, Bloomington, comp as gas well 6450 ft.

WASHINGTON COUNTY—Yequa Oil Co.'s Graves 1, 3 mi n Independence, dk. Penn-Tex Oil Co.'s Kansas 2, Brenham, ru. Sun Oil Co.'s Janner 4, Clay Creek, anhydrite 3270 ft; Freeman 1, Clay, anhydrite 2570 ft; Grimm 1, Clay Creek, set 13⅜-in cas.

WHARTON COUNTY—Givan et al's Hudgins 1, temp abn. C. S. Thomas' Volney 1, Boling, temp abn.

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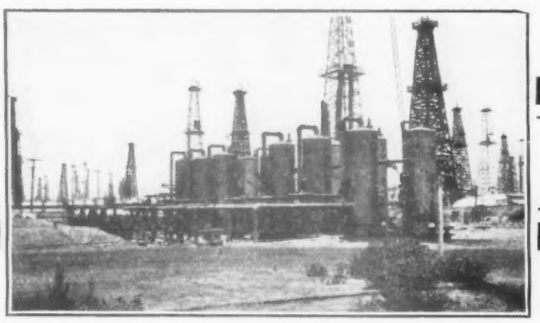

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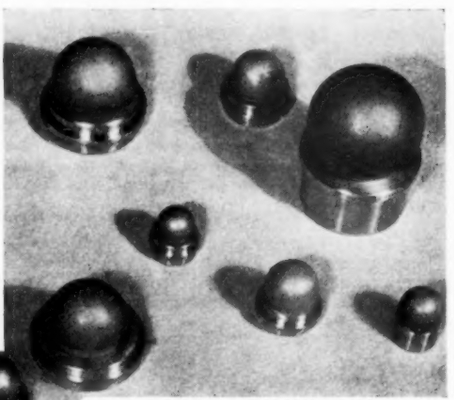

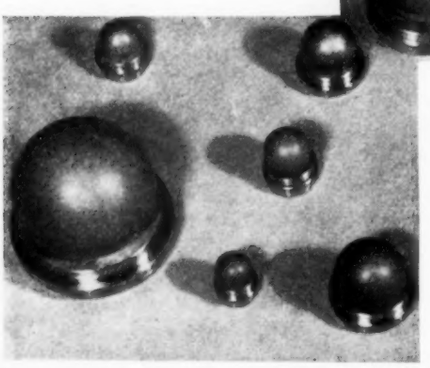

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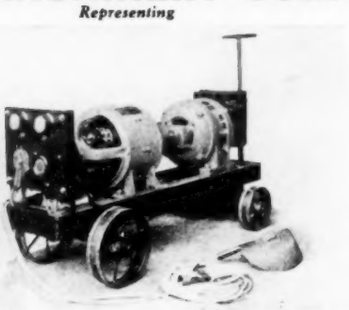

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ACADIA PARISH—Yount-Lee Oil Co.'s Houssiere Latrielle 9, Evangeline, fsh.

ASSUMPTION PARISH—Texas Gulf Sulphur Co.'s Dugas & LeBlanc 4, Napoleonville, gbo 400 ft. Dugas & LeBlanc 5, Napoleonville, sn 270 ft.

AVOYELLES PARISH — M. L. Vincent's Morrow 1, sd.

CALCASIEU PARISH—Wilfred Lahay's Jardell 1, 2 mi ne Vinton, gbo 1900 ft. J. O. Davis' Lumber Co. 1, 8 mi n Starks Dome, salt and shale 6530 ft. Union Sulphur Co.'s Moss 1, Lockport, sdtr 6525 ft. Dr. Thomas et al's Hewitt 1, 2 mi ne Edgerly, lcn. Crawford Doyle, Tr.'s Johnson 1, nw flank Starks Dome, sd.

CAMERON PARISH—Pure Oil Co.'s Yount-Lee 10, Sweet Lake, lime 3690 ft. Shell Pet. Co.'s Watkins 16, Black Bayou, sn and salt 1770 ft; Black Bayou 2, moving in machinery. Freeport Sulphur Co.'s Yount-Lee 5, Black Bayou, lime 1540 ft; Yount-Lee 6, Black Bayou, gypsum 880 ft. The Texas Co.'s Calcasieu Lake State A-6, Calcasieu Lake, filling cavity; Calcasieu Lake State 7, lcn. R. E. Seiss, Tr.'s Vincent 2, Hackberry, sd.

IBERIA PARISH—Jefferson Lake Oil Co.'s Lake Peigneur 10, Jefferson Island, rock 1500 ft. The Texas Co.'s Vermilion Bay 6, Vermilion Bay, dk.

IBERVILLE PARISH—Gulf Ref. Co.'s Gay 1, Bayou Choctau, gbo 2890 ft. Standard's Wilbert 8, Bayou Des Glaise, sn 3800 ft; Wilbert 7, Bayou Blue, dk fdn; L. Baist 1, Bayou Blue, dk fdn; Schwing 1, Bayou Blue, sn 4850 ft; Schwing 3, Bayou Blue, stuck cas 2940 ft. Shell Pet. Co.'s Wilbert 5, White Castle, w.o.c. Texas Gulf Sulphur Co.'s Wilbert 6, Bayou Choctau, dr canal; Wilbert 7, lime 500 ft.

JEFFERSON PARISH—H. T. McClain et al's Trumbell Atterbury 1, Welsh, set 8-in cas 620 ft.

JEFFERSON DAVIS PARISH—Vacuum Oil Co.'s Tietje 1, Roanoke, abn 4840 ft.

PLAQUEMINES PARISH—Gulf Ref. Co.'s Buras Levee B-2, Rose Dome, set 20-in cas 190 ft. Humble O&R Co.'s Cockrell-Moran 2, Lake Grand Ecaille, rep engine. The Texas Co.'s Garden Island Bay 4, Garden Island, pumping in baroid; Garden Island 5, lcn.

ST. JAMES PARISH—Convent Oil Co.'s Jacobs 1, setting up dk.

ST. LANDRY PARISH—Gulf Ref. Co.'s Haskins 4-A, Port Barre, ru.

ST. MARTIN PARISH—Harrison-Abercrombie's Barras 1-A, ru. The Texas Co.'s Iberville 3, Hager Dome, ru. St. Martin Land Co. 5, Hager Dome, shale 1740 ft. Rycade Oil Co.'s Woodyard Lake 1, Bayou Bouillon, lime 4630 ft. State 4, Bayou Bouillon, fsh.

ST. TAMMANY PARISH—Washington & St. Tammany Dr. Co.'s Coussack 2, reinforcing dk.

TERREBONNE PARISH — Chas. Paggi's Evergreen 2, Houma, sd. La. Gas & Fuel Co.'s Minor Estate 1, Houma, ds test showed sw 3240 ft. The Texas Co.'s Bay Junop 2, fsh; Caillou Island 4, lcn; Lake Pelto 4, dk; Lake Pelto 5, lcn; Lake Pelto 6, prep to pump; Bay St. Elaine 5, bailing; Bay St. Elaine 6, lcn; Bay St. Elaine 1, w.o.r.; Lake Barre 6, lcn; Lake Barre 7, set 12½-in cas 1130 ft; Lake Barre 8, set 20-in cas 95 ft; Four Island 4, abn 6930 ft.

WEST FELICIANA PARISH — Putnam Synd.'s Como Plantation 1, sdtr 660 ft, will test oil show at 670 ft.

VERMILION PARISH—Pure Oil Co.'s La Land Co. 1, clay 65 ft.

MOUNTAIN STATES

COLORADO

ADAMS—N. M. Slatt's Hills 1, se 27-2s-64w, co at 2500 ft.

ARAPAHOE — McDebb Dr. Co.'s Fitzsimmons 1, 7-4S-55, dr at 5765 ft. Merritt et al's U. P. 1, nw 17-5s-64w, sd 1600 ft, hfw.

ARCHULETA—Stand. of Colo.'s Fitzhugh 1,

se 32-33n-1e, sd 502 ft; Brooks 1, nw 2-32n-2e, sp 30 ft; Wirt 1, nw 34-33n-12, sdtr 105 ft.

BACA—A. R. Jones Oil & Optg. Co.'s Boice Cattle 1, 22-34s-42w, dr 4360 ft.

ELBERT—Belmont Oil Co.'s Maher 1, se 4-6s-59w, prep to res 3720 ft.

EL PASO—Utemore Synd.'s Cannon 1, ne 10-16s-66w, sd 1100 ft.

HUERFANO—Parker Club's Fee 1, se 4-28s-68w, sd 4116 ft.

JEFFERSON—Ruby Hill O&G Co.'s Braden 1, se 24-4s-59w, dr at 3817 ft.

LAS ANIMAS—Oklahoma Drlg. Ass'n's Radcliffe 1, ne 28-28s-52w, sd 100 ft.

LARIMER—Smith et al's State 2, ne 36-12-70w, dr 360 ft. Standard Oil of Colo.'s State 2, 16-4n-69w, lcn. Hertha 1, nw 21-4n-69w, gas 2950 ft. Pring 1, ne 20-4n-69w, rig. Erbe Oil Co.'s Maxwell 1, ne 25-8n-80w, dr 171 ft. Continental's Scott 3, se 6-9n-68w, st 4646 ft. Smith et al's Monroe 1, ne 26-11n-69w, dr 1600 ft.

LA PLATA—McGarr Pet. Co.'s Mesa 1, ne 27-33n-12, initial production 200 bbls at 3310 ft. McGarr Pet. Co.'s Pinion Mesa 1, ne 34-33n-12, prep to sp. Klem Pet. Corp.'s Olbert 1, se 9-25n-12w, dr 2812 ft. Murchison Oil Co.'s Doescher 1, nw 29-33n-13w, sd 1225 ft for winter.

LINCOLN—Kelly Oil Co.'s State 1, 36-14n-57w, sd 3380 ft.

MOFFAT—Mountain Fuel Supply's State 2, tract 37-12-100, dr 1200 ft. S. H. Keoughan et al's State 1, sw 16-4n-101w, sd 2950 ft. Texas Prod. Co.'s Wier 4, Lot 10, fsh 4646 ft.

MONTEZUMA—Haller et al's Haller 3, ne 33-36n-14w, sd 902 ft.

MORGAN—Ind. Terr. Illum. Oil Co.'s State 1, ne 16-1n-57w, dr 3900 ft.

PUEBLO—No. American O&L Co.'s Boescher 1, 7-22-66, dr at 1071 ft. Anchor Oil Co.'s Easley 1, sw 35-22s-67w, dr 418 ft.

PARK—So. Park Oil Co.'s Milligan 1, se 13-9s-76w, show gas 1600 ft. So. Park O&G Co.'s Esche 1, ne 6-9s-76w, sd 605 ft.

ROUTT—Gorham et al's Omholt 1, 29-4n-87w, sd 115 ft.

WELD—Platte Valley Pet. Corp.'s Patterson 1, nw 24-6n-61w, test 530 bbls at 6783 ft. Eastman Oil Co.'s Steele 1, ne 14-2n-67, sd 165 ft.

WASHINGTON—Middlemist Oil Co.'s 1, se 14-4-56, dr 1676 ft.

NEW MEXICO

DE BACA—Matador Oil Co.'s Wood 1, se 6-4n-20e, repairs at 3005 ft.

LUNA—Angelus Oil Mining Ass'n 1, se 20-21s-10w, dr 6000 ft.

McKINLEY—J. W. Halsell's Santa Fe 1, 17-18-9w, sd 3255 ft. Williams et al's A. T. S. F. 1, se 19-18n-8w, sdtr 1900 ft.

OTERO—Ernest et al's 1, se 20-25s-7e, waiting for equipment 1328 ft.

QUAY—Silverstein et al's Wetzel 1, 29-12n-33e, sd 175 ft.

RIO ARRIBA—Berringer et al's Hartman 1, ne 8-29n-7w, sd 825 ft. San Juan Pet. Co.'s Government 1, se 14-30n-7w, sd 250 ft. Governador Oil Co.'s 1, ne 12-29n-7w, sd 751 ft.

SAN JUAN—Dorothy Oil Co.'s Terwilliger 2, 29-30-9w, sd 1750 ft. Kutz O&G Co.'s Day 1, se 20-28n-10w, cemt at 2023 ft. Childers Dr. & Pr. Co.'s Westwater 2, nw 23-31-16w, sd 2525 ft. Rio Grande Dev. Co.'s 2, 9-29-11w, sd 1380 ft. Continental Oil Co.'s Rattlesnake 24, 1-29n-19w, dr 4300 ft. Witt O&G Co.'s Mangum 1, se 33-29n-11w, moving in.

SAN MIGUEL—Pioneer O&G Co.'s Thunderbird 1, nw 14-15n-16e, waiting 2375 ft. Starr Oil Co.'s Adams 1, ne 25-17n-16e, ur 6⅝-in cas at 3356 ft. Cibola Pet. Co.'s Crown 1, se 9-13n-14e, dr 840 ft. Hershfield Dev. Co.'s Cabra Springs 1, ne 12-12n-22e, dr 1542 ft.

TORRANCE—Williams et al's Staplin 1, ne 16-8n-10e, sd 1643 ft. J. B. Witt O&G Co.'s Kutchem 1, 12-17-7e, dr 1465 ft.

VALENCIA—Acme Oil Co.'s N. M.-Ariz. Land Co.'s 1, 26-6-3r, dr 4966 ft. Harlan et al's Harlan 1-A, 5-6n-2e, dr 3410 ft.

MONTANA

CASCADE—Andover Oil Co.'s Floweree 1, se 20-21-2w, dr 1200 ft.

FERGUS—Northern State Oil Co.'s Wood-

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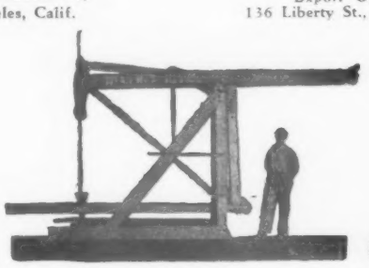

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ward 1, se 20-14n-24e, td 1000 ft, casing trouble. Melton Corp., 24-21n-17e, ur 2645 ft.

GLACIER—Fulton Pet. Corp.'s Blackfeet 1, ne 28-36n-12w , dr 1200 ft. Hill-O'Neill's Michaels 1, se 28-36-5w, 15M gas at 2750 ft. B & H Oil Co.'s Haines 1, se 2-34-6w, dr 267 ft. Jeffries-Hoerr's Dawson 1, ne 7-31-12w, sd 3000 ft.

GOLDEN VALLEY—Texas-Pacific's 1, sw 21-8s-21e, td 1480 ft.

JUDITH BASIN—Newton-Waddington, sw 15-16n-10e, dr below 1110 ft. Pownal Oil Co., se 24-19n-11e, lcn.

LIBERTY—Northland O&G Co.'s Yurman 1, 32-33-52, sd 2460 ft. Sunburst's McLaren 1, se 9-37-6e, sd 3115 ft. Utopia Oil Co.'s Eleanor Ass'n 1, se 11-33-6e, td 3190 ft. Perkins et al's Brown 1, nw 24-35-4e, sd 150 ft. Western Natural Gas Co.'s 1, ne 23-37-4e, dr up lost bailer, 2065 ft.

POWDER RIVER—Creel et al, 7-8s-50e, dr 1200 ft.

ROSEBUD—Prairie O&G Co.'s 1-X, 26-10-39e, dr in shale 1950 ft. Prairie O&G Co.'s 1, Contract 4, 28-10-38, dr up lug 1250 ft.

TETON—Andover Oil Co.'s Carlson 1, 5-24-4w, sd ready to res 150 ft.

TOOLE—Liquid Gold Oil Co.'s Roberts 1, ne 25-36-12, sd 600 ft. "67 Petroleum Co. 1, nw 29-33-1e, dr below 2500 ft. International Roy. Hold. Co.'s Henry 1, sw 26-35-36, ur to 2500 ft.

WYOMING

BIG HORN—Westland Oil., Inc., 24-54-95, gas at 510 ft. Wisconsin Holdings, 5-55-97, sd 665 ft. Yellowstone Pet. Co.'s 1, 7-57-97, td 4080 ft.

CARBON—Producers O&G Co.'s Blivens et al 1, 32-12-92, 5M gas at 700 ft. Midwest's U. P. 27, 11-20-81, cemt 1701 ft, td 1745 ft. Petroleum Exploration Co. of Calif., 29-23-89, show oil and gas at 790 ft.

CONVERSE—Converse O&G Co., 27-33-72, sd 1410 ft. Pioneer Oil Co., 5-31-79, to dr new test.

FREMONT—Texas Prod. Co.'s State 1, 36-44-96, cemt off bailer, td 4485 ft. P & R 1, 33-34-92, cemt 10-in cas at 4900 ft, td 4951 ft. Yellowstone Oil Co.'s 1, 15-39-92, td 185 ft. Ward O&G Co., 28-34-90, dr 318 ft.

LINCOLN—Mountain Oil Corp.'s 36-25-116, dr 1500 ft. Wyo. Prod. Co., 14-24-113, sd 1200 ft.

NATRONA—Summit Oil Co., 21-33n-80w, dr below 1000 ft. Midwest's 11, nw 32-34n-77w, dr 4600 ft. Cuyler Oil Co., 23-36n-85w, rig.

NIOBRARA—West Virginia Synd., ne 7-35-62, td 987 ft, cas trouble.

PARK—Resolute Oil Co., 17-27-101, flowed 100 bbls in 2 hrs, sd, td 8250 ft.

SWEETWATER—Vermillion Oil Co.'s 1, se 16-12-99, sd 3500 ft.

UINTA—Park City O&G Co., nw 6-15-113, dr below 2400 ft.

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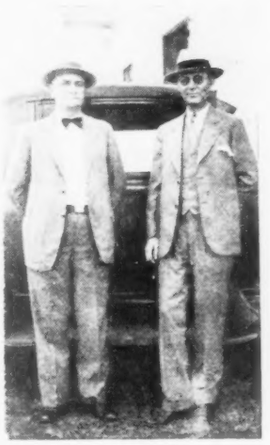
Mexico's Future Petroleum Possibilities

(Continued from page 34)

is obtained at Guerrero, a quaint, typical Mexican, town, which was established in 1750—a quarter of a century before the birth of the United States. Although the present population of Guerrero is only about 6000 persons, it once had 20,000 inhabitants, and in the days before the Texas revolution it was the metropolis of Northern Tamaulipas, the residence or headquarters of cattle and sheep raisers who held unfenced ranches extending as far north as San Antonio.

For the drilling operations there are two crews of men. Each crew includes six men: two Americans and four Mexicans. On each crew there is an American driller and an American assistant driller (cathead man), and four Mexican workers; a fireman, derrick man, and two floor men. Thus there are 12 workers, including four Americans, on the two crews employed in the actual drilling operations. In addition, however, there are various other Mexican workers, including waiters and men who haul wood. Six men are needed in the water pumping system. The water, coming from the river, is lifted 450 feet to the well location. One pump is used at the river; there is also an intermediate pump. These pumps use gasoline for fuel. Aside from the above employes there are two Chinese cooks. The drillers and assistant drillers are Phil Compton, J. W. Roberts, W. L. Dalby and W. A. Ward.

PHIL COMPTON



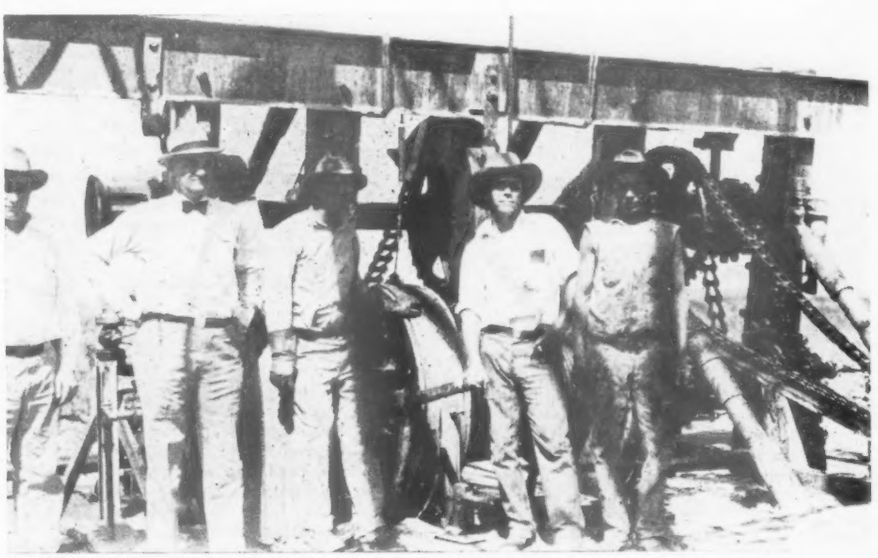
HOMER HARRIS AND OLIN G. BELL

Description of Dome

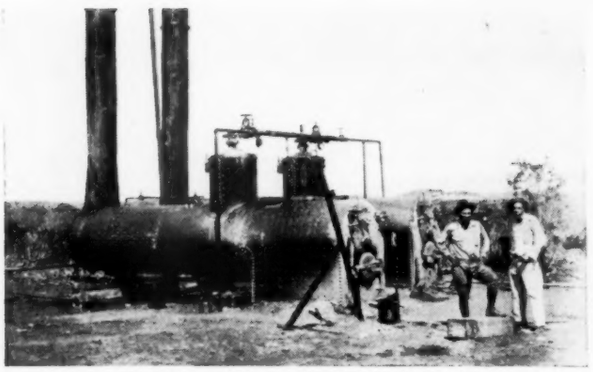
The Guerrero dome or anticline is about eight miles long and three miles wide, trending almost due north and south. Exemplifying the idealized text-book illustration of an anticline, the structure has been described as a "geologist's dream." It expresses itself in a narrow, eroded, anticlinal valley, bordered by sandstone-capped hills whose formations dip in opposite directions on opposing sides of the valley.

Detailed study has shown that the fold is actually an oblong anticline or structural dome of the Rocky Mountain type, resembling for example Teapot dome, and that there are in reality two domes at the top of the anticline, separated symmetrically by a central saddle. The north dome is largely in the San Francisco Grant, and the south dome is for the most part in the Soldadito Grant. The interests which are drilling the well have concessions covering not only those two large grants, but also adjoining grants on all sides, including the El Ebanal on the west, Canal del Leon and Tabares on the north, Joaquin Botello on the east, and the north half of the Villarreal on the south. The total block comprises 30 square miles.

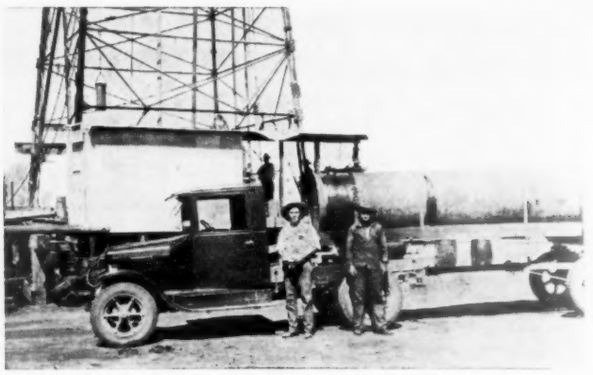
The deep test, Guerrero 3, is on the Soldadito Grant, which is owned by several members of a family, and which comprises an area of approximately 4700 acres. The loca-



Left to right—G. B. Gierhart, geologist; Homer Harris, tool pusher; Phil Compton, driller, and two native roughnecks



Boiler Set Up



Fuel Truck

tion of the well is at the crest of the south dome. Its surface elevation is 654 feet.

A hand-dug water well, 16 feet deep, on a flank of the structure in the San Francisco Grant has a live gas seepage, and furnished one of the earliest indications of the possible presence of petroleum. Gas is still bubbling up through the water in that well. It is coming from Wilcox sand. The deep test, however, being located on the crest of the structure did not drill through that gas sand, for the sand has eroded away at the top of the structure.

The structure was first mapped by surface geology. But it has also been checked by means of aerial photography, and in addition, there was seismic work. The anticline shows up well on the aerial photographs. But the results with the seismograph were negative, as may be readily understood now that the deep test has penetrated such an enormous thickness of sands and shales. Incidentally, it may be mentioned here that Compania Petrolera Tamaulipas has acreage on La Lajilla structure and in places on the Salado Arch, north of Guerrero dome, and that those areas also were photographed from the air. Other companies which have done extensive aerial photography in Tamaulipas and Nuevo Leon include Compania de Petroleo Mercedes and Continental Oil Company of Mexico.

Started in Wilcox

As previously mentioned, Guerrero 3 started in Wilcox sand of the Eocene, that surface sand being considered by some geologists as the Carrizo part of the Wilcox. The top of the Midway (lowermost Eocene) formation was found at 2287 feet, and the bit was still in that formation at 7223 feet. That thickness of Midway—over 4900 feet—is a surprise to the owners of the test, as it is to many geologists in Texas. It actually represents a thickening of that formation over Guerrero dome as compared with measured sections in the vicinity, whereas a thinning was originally anticipated. The Cretaceous outcrops about 18 miles west of Guerrero dome and 30 miles to the north.

The Midway is fossiliferous and readily identified, and surface measurements of it between the Rio Grande and Tampico indicate some enormous thicknesses of the formation.

The Papagayos shales of the uppermost Upper Cretaceous are to be expected upon passing out of the Midway; and surface measurements indicate that the Papagayos would have a thickness of about 3000 feet. Next below the Papagayos would normally be the San Felipe formation of the lower part of the Upper Cretaceous, corresponding to the lower part of the Austin and the Eagleford. There is no break between Papagayos and San Felipe. Below the San Felipe would come the Tamasopa, including all of the Lower Cretaceous.

The shallowest possible production on the south dome at Guerrero, at least from the standpoint of wells located on top of the structure, would be more than 7000 feet deep; and that would prove profitable only in the event enormous production should be developed. Chances for such production do not appear very promising; for even if the base of the Midway and the top of the Papagayos formation have been virtually reached, there is no assurance that either will be found productive. The Papagayos formation is in the Upper Cretaceous, and it has yielded some commercial oil production in the Ebano field, northwest of Tampico. But the principal prolific production of Mexico in the Tampico districts was not from Upper but Lower Cretaceous, which apparently will be too deep at Guerrero to attempt to reach, at any rate under present-day conditions.

There are, however, several possibilities which the structure offers. It is possible that production might be found on the flanks of the south dome, or in wells drilled on the crest or the flanks of the north dome. And finally, there is the possibility, although perhaps not a strong one, that the Upper Cretaceous may be thin or absent, and that the present deep test may reach the Lower Cretaceous formations, which furnished the marvelous "gushers" of the fields around Tampico.

Mexico's Future Petroleum Possibilities

This feature on Guerrero Dome Test marks the conclusion of Mr. Logan's series of stories dealing with the petroleum possibilities in Northern and Northeastern Mexico. These surveys of the situation in Coahuila, Tamaulipas and Nuevo Leon have been presented in an effort to illustrate the vast possibilities for the future production of petroleum in these states as observed in the recent visit of the author to the areas mentioned in the stories.

Other special features that have appeared in The Oil Weekly previous to this story include:

"Search for Oil and Gas in Prospective Areas of Nuevo Leon, Coahuila and Tamaulipas—An Interview With Jose Benitez, Governor of Nuevo Leon," which appeared in the issue of November 28;

"Nuevo Leon and Tamaulipas Have Many Prospective Oil Structures," issue of December 5;

"Glenrose Lime Promises Petroleum Production in Coahuila," December 12;

"Petroleum Laws, Economics, Operating Costs," December 19; and "Monterrey, New Oil Metropolis of Mexico," December 26.

Hobbs Drilling and Production Methods and Equipment

(*Continued from page 29*)

use 500-barrel, bolted steel storage, and Shell Petroleum Company have standardized on the 1000-barrel type.

Gasoline Plants

Phillips Petroleum Company's plant in the southern part of the pool is running a daily average of about 16,000,000 cubic feet from which approximately 25,000 gallons of gasoline is extracted per day.

Shell Petroleum Corporation's and Continental Oil Company's plant consists of 10 compression units, seven Bessemers and three Millers, of the twin distillate type. During the week ending November 25, 1930, input of gas totalled 83,565,000 cubic feet for a daily average of 11,937,857 cubic feet from which it obtained a total of 178,528 gallons of gasoline or a daily average of 25,504 gallons. This plant has handled as high as 14,000,000 cubic feet daily, which is close to its present capacity. Gas being run to the Phillips plant is slightly higher in sulphur content than that going to the Shell Continental plant.

Dry gas from the plants is being used for fuel at drilling wells and other lease requirements and only a small percentage is blown into the air. Early in the history of the towns of Hobbs and New Hobbs, principal oil towns in the fields, efforts were made to use the gas from the plants for general heating and other domestic use. Hydrogen sulphide content of the gas obtained from the lower zone is high enough to make it objectionable and the present supply is being obtained from the Bowers sand which supplies a relatively sweet gas although it has a slightly disagreeable odor.

Water Conditions

Only one well in the pool, Ohio Oil Company's State 1 NE SE SW, Section 9-19s-38e, has definitely encountered bottom water and no information is available as to the point at which it was encountered. Shell Petroleum Corporation's O. B. Terry 1 SE SW NE, Section 22-19s-38e, approximately one mile south of production in the older part of the pool, had 3500 feet of water in the hole from the productive zone and a dry hole at 4238 feet. Midwest Refining Company encountered water in its Wright 6 NW NW SW, Section 14-19s-38e, slightly over a half-mile east of production on the southeast end of the pool. Ohio Oil Company's well apparently is near the oil-water contact for that part of the pool. Assuming that it encountered water in the last foot of hole which was 4207 feet, the datum would be minus 616 feet. Shell Petroleum Corporation's O. B. Terry 1 had a show of oil in the top of the zone which indicates that it was at the oil-water contact. Datum on top of the zone is minus 642 feet. No information is available as to the contact at other dry holes around the structure but datum on top of the productive horizon is below minus 700 feet. On the basis of the Midwest, Wright, Ohio, State, Shell, Terry, it appears that the oil-water contact will be defined for the south end of the pool at about the minus 625-foot contour sea level as datum. Just how closely it will follow for the remainder of the structure cannot be determined at this time but it is believed that the same depth can be used as a fairly accurate guide.

Water Analyses

Midwest Refining Company,
Wright 6, Section 14-19s-38e
Sample taken while bailing—February 8, 1930

Top lime and sand..4273 feet.
Bottom . .....4279 feet.
T. D. 4500 feet.

Results of Analysis.*

Specific gravity at 15° C.	1.015
Reaction with litmus	Alkaline

Properties of Reaction—	Per Cent Reacting Values
Primary salinity	62.94
Secondary salinity	27.29
Primary alkalinity	....
Secondary alkalinity	6.34
*Not accounted for	**3.43
	100.00

Constituents:	Parts per Million	Percentage Reacting Value
Sodium (Na)	4747	35.63
Pottassium (K)	Trace	.....
Ammonium (NH_4)	Trace	.....
Calcium (Ca)	914	7.87
Magnesium (Mg)	580	8.23
Iron oxide and Alumina (R_2O_3)	14	.....
Sulfate (SO_4)	3666	13.16
Chloride (Cl)	6653	32.37
Bromide (Br)	Not detected	
Iodide (I)	Not detected	
Carbonate (CO_3)	46	0.26
Silica (SiO_2)	59	.....
Free hydrogen sulfide (H_2S)	500	.....
Combined sulfide (S)	38	0.41
Bicarbonate (HCO_3)	731	2.07
Totals	17.948	100.00

Classification of water—Normal.

*All ions, including sodium, were actually determined.

**All constituents have been rechecked except sulfur compounds. These could not be rechecked because oxidation altered their amounts after exposure to the air.

Shell Petroleum Corporation,
O. B. Terry 1, Section 22-19s-38e.
Sample taken while bailing—November 25, 1929.

Top zone .....4235 feet.
Bottom . .....4238 feet.
T. D. .....4238 feet.
Bottom water rose 3506 feet.

Results of Analysis:

Specific gravity at 15° C.	1.015
Reaction with litmus	Alkaline

Properties of Reaction:	Percentage Reacting Value
Primary salinity	80.69
Secondary salinity	5.65
Primary alkalinity	....
Secondary alkalinity	12.77
*Not accounted for	0.89
	100.00

(*Continued on next page*)

Constituents	Parts per Million	Percentage Reacting Value
Sodium	6,872	43.60
Pottassium	Trace	.....
Ammonium	Trace	.....
Calcium	531	3.87
Magnesium	173	2.07
Iron oxide and alumina	13	.....
Sulfate	878	2.66
Chloride	10,248	42.13
Bromide	Trace	.....
Iodide	Trace	.....
Carbonate	Not detected	.....
Silica	36	.....
Free hydrogen sulfide	236	.....
Combined sulfide	292	2.66
Bicarbonate	1,253	3.01
Totals	20,532	100.00

Classifications of water—Modified.

*All ions, including sodium, were actually determined.

Conclusions and Acknowledgements

The general belief that potentials under the methods employed in most fields, give erroneously high figures, is concurred with. However it is believed that the methods used in Hobbs more accurately approach the actual capacity of the wells than the determination made in most of the other flush areas now menacing the crude market. With a more stable condition Hobbs could stage another drilling rally in a comparatively short time. The daily potential is now estimated at 1,076,329 barrels and it is not at all unlikely that the pool could produce a good percentage of this amount for a considerable period of time. Proration in the pool is working perhaps more smoothly than any other where similar conditions exist and through this concerted effort alone will operators be able to avert further reductions in the price of oil.

The writer is indebted to all of the operating companies for the hearty cooperation accorded them both in securing data for the various tabulations and for courtesies extended while in the field. Special thanks are due the Hobbs pool executive committee which cooperated to the fullest extent through C. G. Staley, its field umpire. Publications of the American Association of Petroleum Geologists, the Geological Survey of the State of New Mexico, and the United States Geological Survey, have been depended upon for much of the geologic information.

HOBBS AREA PRESENTS MANY GEOLOGICAL PROBLEMS

(*Continued from page 26*)

Eunice area, southwest of Hobbs in Lea County, the soft dolomite and limes of the Hobbs section grade into hard pure limestones. Further reference in regard to east-west gradation will be made in the section under drilling conditions.

Structural Conditions

As mentioned heretofore, top of the Brown lime has been generally used as a guide to structure. It should be pointed out that several of the companies place the top at the point where Brown lime or dolomite first shows in the cuttings while others place the top where the cuttings show as much as 25 to 50 per cent lime. The two points vary from 20 to 30 feet apart and many geologists who have been unable to study the cuttings have been confused in attempting close structural contouring. Contours presented in this report are based on the first show of Brown lime or dolomite.

Two general structural conditions are possible on the basis of the information available. Production in the northern and southern parts of the pool may be from the same structure or may be from different structures separated by narrow saddle. Opinion differs in the matter of which is true. The northern part of the pool, lying principally in Township 18 south, Range 38 east, is located on an oblong dome striking north, approximately 25 degrees west. The axis plunges northwestward from the highest point on the structure at the rate of about 25 feet per mile and southeastward at the rate of approximately 50 feet per mile. Ohio Oil Company's State 1, NE SE SW Section 9-19s-38e, on the southwest edge of the structure, is the lowest producing well, datum on the Brown lime being plus 646 feet and the highest well structurally is Gypsy Oil Company's W. D. Grimes 1, NW NW NW Section 32-18s-38e, with the datum on the Brown lime at approximately plus 900 feet. Ohio Oil Company's well had water in the bottom of the producing horizon and is the only producer which has had water difficulties.

Structural Possibilities

The southeastern part of New Mexico lies between the main Permian Basin and an area of sharp major folding to the west. It is north and northwest of the western part of Texas where numerous major folds can be traced striking toward this part of New Mexico. The Eunice structure in Township 22 south, Range 36 east, apparently strikes northwest-southeast and a line projected along the apparent axis of the structure passes west of the Hobbs High. National Securities Company's T. A. Linam 1, NE SE SW Section 33-18s-37e, approximately four miles west of the Hobbs pool, had top of the Brown lime at plus 750 feet, making it 48 feet higher than Landreth Production Company's State 1-C, NE NE NW Section 6-19s-38e, on the southwest edge of the structure. The Linam well had a show of gas at 2999 feet, show of oil and gas at 3040 feet, and a show of gas which bridged the hole at 3060 feet. It is reported running higher than the Eunice structure and may be located on the same line of folding.

It is safe to predict that numerous subsurface structures will be found in the basin platform area and that the industry may look to New Mexico as a future leader in the production of oil. Further exploration will depend upon geophysical surveying and core drilling in the absence of any surface beds from which structure can be worked.

[1] Baker, Charles Lawrence, "Discussion of Permian Symposium," A. A. P. G. Bulletin, Vol. 13, Pt. 2, p. 1057.

[2] Cartwright, Lon D. Jr., "Transverse Section of Permian Basin, West Texas and Southeast New Mexico," A. A. P. G. Bulletin, Vol. 14, No. 8, pp. 969-981.

[3] Ibid.

[4] Darton, N. H., Topographic Map of the State of New Mexico, U. S. G. S. Folio.

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The Oxweld Type R-43 Oxygen Welding Regulator, recently introduced by Oxweld Acetylene Company, 30 East 42nd Street, New York, guarantees a freedom from fluctuation by means of a system of two-stage pressure reduction. This two-stage reduction is accomplished through two separate and independent sets of diaphragms, valves and springs. The full cylinder pressure of 2000 pounds enters the regulator through a stem-type valve and is controlled by the first stage diaphragm. In this stage the pressure is reduced to less than 250 pounds per square inch. This pressure will be constant for any one regulator, but varies somewhat with different regulators. The pressure here is non-adjustable.

Oxweld Welding Regulator

The oxygen then passes from this first reduction assembly to a second stem-type valve and diaphragm assembly where the pressure is reduced to the working pressure desired by the operator. This pressure is regulated by the operator my means of the adjusting screw, and any operating pressure may be obtained without fluctuation.

Instead of the usual handle-type pressure adjusting screw found on all other Oxweld regulators, there has been substituted a screw with a ribbed cap. This radical change in external design not only presents a neater and more compact appearance but will also avoid the possibility of breakage as there are no projections on the handle to be bent accidentally. This new type adjusting screw is of smaller diameter than the body of the regulator itself, so that it is easier to pack for transportation from one job to another.

Steel Reel

HARRY B. NEWHALL CORPORATION

Henry B. Newhall Corporation, Garwood, New Jersey, is manufacturing a steel reel for oil field use. The manufacturers state that this new reel is as light as wooden reels of a corresponding size. The leading features of this steel reel is to provide transportation and field handling impacts without damage to the reel or cable and to minimize depreciation and repair.

No nails are used in the reel. An outstanding advantage offered in this reel is the method of holding the lage which enables one man to place or remove the lage in five or six minutes and the return shipment of the lage by placing loosely inside the reel drum instead of bundling.

Tests have been made carrying 100,000 pounds on a single reel.

Detailed information on this steel reel will be furnished by writing the manufacturers.

Newhall Steel Reel

Insulated Aluminum Wires

GENERAL CABLE CORPORATION

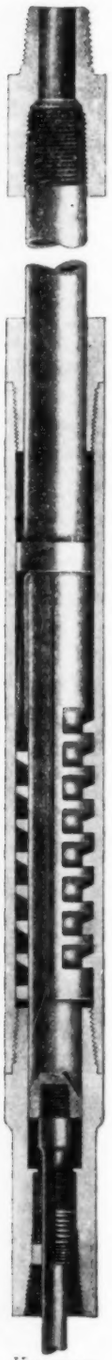
General Cable Corporation has recently announced a varied line of insulated aluminum wires and cables under the trade name "Alectral." Heretofore, practically all of the aluminum used in the transmission of electrical energy has been in the form of bare conductors. Its use for this purpose is known to the electrical industry, and within the past 10 years, more than 250,000,000 pounds of aluminum have been employed in the production of overhead transmission lines. The introduction of Alectral wires and cables, representing as it does a new development in the field of insulated conductors, offers to the electrical engineer the economic fatures of aluminum in a much broader field.

The initial group of insulated aluminum conductors includes such constructions as network cable, non-metallic underground cable, insulated line wire, tree wire, armored cables, magnet wire, starter cable, and car wiring cable.

A new departure in connection technique has been developed, together with the required fittings and accessories. Connections will be made by applying high pressures to sleeves by means of a specially designed light weight hydraulic press.

For applications in which tensile strength is not a prime consideration, the conductors of Alectral wires and cables

NEW EQUIPMENT FOR THE FIELD



Kammerdiner Rotary Jar

are all-aluminum. For aerial service in which tensile strength in relation to resultant loads is of major importance, certain combinations of aluminum and steel have developed. These will show favorable costs in installation and in up-keep in both rural and urban distribution systems.

Alectral wires and cables are materially lighter than the average conductor. For some time, aluminum conduit has been employed by the railroads and railways to decrease the dead weight of the electrical equipment. With the introduction of Alectral wires and cables, further reduction in weight can be made by the substitution of these insulated aluminum wires and cables for the heavier conductor materials.

General Cable Corporation brings to this new development a group of manufacturing plants and a broad engineering experience in the production and use of insulated conductors. By the addition of insulated aluminum wires and cables to its line, it has materially increased its coverage of electrical conductors.

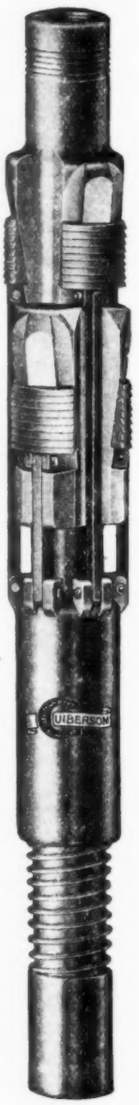
Improved Rotary Jar

KAMMERDINER ROTARY JAR COMPANY

Kammerdiner Rotary Jar Company, 237 South Highland Avenue, Los Angeles, announces several new features incorporated in the improved Kammerdiner rotary jar recently introduced to the trade. These improvements include interchangeability of parts, the heat treating of every working part and the addition of splines to catch the mandrel in rotation to offer greater protection to the threads.

The new jar has also been balanced in order to strike a more solid blow. This has necessitated an increase in the length of the jar. The operation of this rotary jar remains identically the same as the design which it has superseded. It requires no complicated springs, slips, or hydraulic action to make it operate. Further details will be gladly furnished by Kammerdiner Rotary Jar Company upon request to the above address.

Norma-Hoffman Bearings Corporation, Stamford, Connecticut, is mailing out an eight-page booklet describing and illustrating the "Norma Greaseal" felt-protected precision ball bearings of the closed type, and will furnish copies to interested parties. Tabular information and mechanical drawings offer much instructive help on making typical applications of bearings.



Guiberson Tubing Catcher

Duplex Tubing Catcher

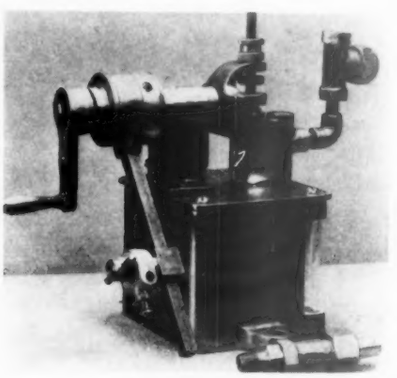
GUIBERSON CORPORATION

Guiberson Corporation, Dallas, Texas, is marketing the Duplex tubing catcher, which was developed to meet the safety requirements of tubing in deep wells. It is designed with a multiple of slips, one set above another, the slips operating in unison and actuated by a common means.

By this method the shock occasioned by the fall of a string of tubing is effectually distributed over a much greater area of the casing's inside surface.

These catchers, with the exception of the 6⅝-inch A. P. I. by three-inch, which has a three-inch plain tube with upset connections, are built on seamless upset tubing equipped at each end with A. P. I. upset tubing connections unless otherwise specified. The 5¾-inch A. P. I. catcher is made only on two-inch and 2½-inch upset tubes. These catchers may be equipped with fluted couplings on the bottom.

An illustration of the Duplex tubing catcher is shown here. Literature outlining it will be furnished by the manufacturers upon request.



K-K Lubricator

K-K Drive Lubricators

HILLS-McCANNA COMPANY

Hills-McCanna Company's lubricators are now made with either the new K-K (Kam-Klutch) drive or the ratchet type of driving mechanism.

The K-K mechanism comprises a right hand part which attaches to the standard for the purpose of holding the crankshaft when on the back stroke, and a left hand part which attaches to the driving rod operating the crankshaft on the forward stroke.

The principle of the Kam-Klutch is spring held rollers embodied in a housing which work with and against the crankshafe when operating. The drive permits attachment to high speed driving arms in any position within the arc of a complete circle, and likewise gives the lubricator greater speed in oil delivery when and where needed. All Kam-Klutch parts are hardened and packed in grease for

NEW EQUIPMENT FOR THE FIELD

trouble free operation. The Kam-Klutch is interchangeable with the present ratchet drives.

Another feature included in the Kam-Klutch driven types of these lubricators is the new style charging arm or crank shaft for flushing cylinders when starting up or to increase flow when lubricator is in operation.

Further particulars are available by writing the manufacturer — Hills-McCanna Company, 2349 Nelson street, Chicago.

New Size Flow Bean

SHAFFER TOOL WORKS

Shaffer Flow Bean

Shaffer Tool Works, Brea, California, has added a new one-inch size to the Shaffer adjustable flow beans, making five standard sizes, one, two, three, four and six-inch sizes.

The new one-inch size is designed for use in places where erosion is encountered, and has a stainless steel valve tip and venturi tube with the body made of bronze. It is now in use as a boiler water feed valve, the stainless steel and bronze not being affected by changes in temperature or water impurities. It is also being used in some cases as a gas burner valve.

This line of Shaffer beans offers a simple hand-wheel control and a readily read pressure gauge.

New Volcano Gas Burner

VOLCANO BURNER, INC.

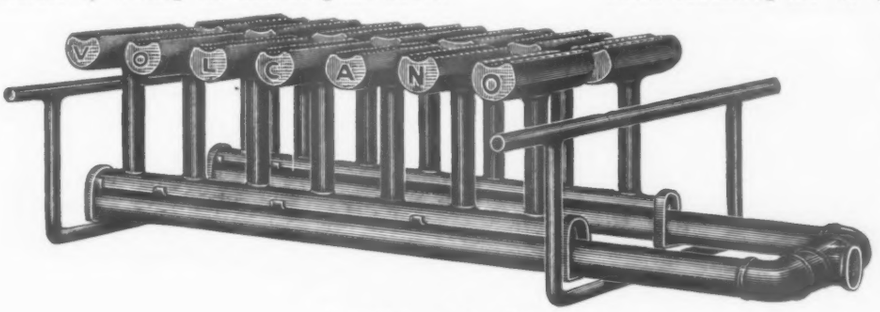
Volcano Burner, Inc., 1759 South Quincy street, Tulsa, announces the new Volcano gas burner, built for installation in oil field boilers of any size.

This burner keeps steam on three to 300 pounds gas pressure. It has no fire brick or target to heat. The design has been worked out to prevent banking up around the mud rim and to prevent clogging up with a leaky fire box or flues.

It is set for a fixed mixture to eliminate the necessity of adjustments. It may be installed in three sections and with as many heads as necessary, the size and shape of the boiler controlling the style of installation.

The accompanying illustration shows the burner with 14 burner heads.

Detailed information may be obtained from the manufacturers by writing the address given above.



New Volcano Gas Burner

Metro Couplex Cab

METROPOLITAN BODY COMPANY

Metropolitan Body Company, Bridgeport, Connecticut, announces the new patented Metro Insulated Couplex cab for motor trucks, design and construction of which is to offer more comfort to the driver, perfection in stream line beauty and rugged durability.

The insulated one-piece steel roof is to eliminate drum and rattle from within the cab and to afford protection from heat or cold. The cushions are of the Metro soft spring air type. Clear vision one-piece windshield and two-piece rear window are included.

The entire cab has insulated air pockets between the outer and inner walls. The new Metro three-point mounting utilizes a ball bearing and compensating springs.

The craftsmanship of fine custom coach work and scientific steel construction with wood insulation have been combined to an unusual degree; marking a new and advanced departure in cab design and construction.

The first public showing of the new and patented Metro Insulated Couplex Cab will be at the New York Automobile Show, January 3 to 10, 1931, Space C-38, third floor, Grand Central Palace.

Foam Device

AMERICAN LaFRANCE AND FOAMITE CORP.

American LaFrance and Foamite Corporation of Elmira, New York, announces a new foam producing device, known as the Foamite Duomixer.

The new device is used in a system known as the Foamite dual powder system. Designed primarily for stationary use, the Duomixer is a two-hopper device, one hopper being used for the "A" part of the Foamite dual powder, and the other for the "B" part.

Because the "A" and "B" parts of the powder are poured into separate hoppers, foam is not produced at the Duomixer as is the case with single powder Foamite generators manufactured by the company. Instead, the resulting solutions flow through twin pipe lines, terminating in mixing chambers or nozzle sets. With this set-up, the Duomixer may be located as far as 1500 feet from the risk to be protected. This feature, it is announced, is one of the principal reasons for the existence of the Duomixer and the Foamite dual powder system.

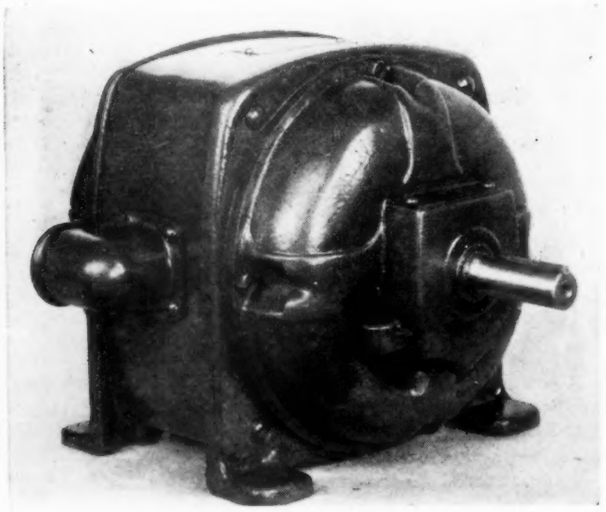
Foamite dual powder for use in the system, is packed in moisture proof steel containers, each holding 50 pounds. Those containing the "A" part of the powder are painted yellow with black lettering, while those containing the "B" part are black with yellow lettering. The two hoppers of the Duomixer are painted and lettered to correspond.

Three models of the Duomixer are now in production. They are designated as models 120, 275 and 350. The numbers indicate the inlet capacity in gallons per minute at 100 pounds water pressure, the rec-

ommended operating pressure. With the exception of the sizes of the orifices, all models are identical.

In many ways, it is pointed out, the dual powder system, utilizing the Duomixer, will resemble the Foamite two-solution system which is today used in protecting millions of barrels of petroleum products all over the world. It incorporates many of the features of this system, such as twin pipe lines, mixing chambers, hydrants and control valves. Like the Foamite two-solution system, the Foamite dual powder system has a centralized point for the discharge of the solutions.

For portable use alone, it is claimed that no foam producing device is as simple and rapid in operation as a single hopper generator using a single foam powder. Although the commonest application for the new Duomixer will be in a fixed installation, it may, in an emergency, be used as a portable device. In such service, it requires twin lines of 2½-inch hose terminating in a Foamite nozzle set.



New G. E. Motor

New Reversing Motor

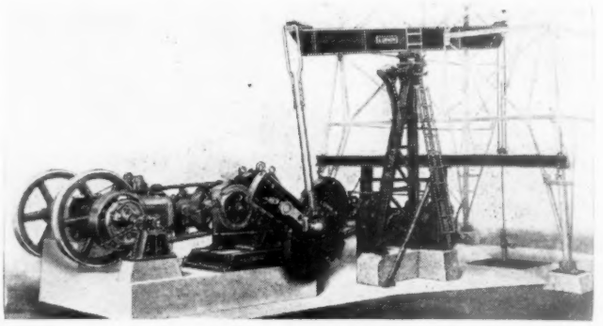
GENERAL ELECTRIC COMPANY

General Electric Company, Schenectady, New York, announces a new line of single-phase, repulsion induction motors, designated type SCA, acapable of very frequent reversal. These motors have the same appearance as the General Electric type SCR general-purpose, single-phase motors, and are mechanically interchangeable in all respects with corresponding horsepower and speed ratings of that type.

Available ratings range from three-fourths to five horsepower at 1800 r.p.m., and from one-half to two horsepower at 1200 r.p.m. All mechanical modifications which may be applied to the general-purpose SCR motors are equally applicable to the new type SCA. The starting torque is high and ranges from 225 to 275 per cent of normal full-load running torque depending on the rating.

The control for the new motor is simple, consisting only of a full-voltage, three-pole, reversing switch which may be either manual or magnetic.

Machine tools, garage equipment and door openers represent a small section of the actual field of application.



New Lufkin Pumping Unit

Lufkin Side Base Unit

LUFKIN FOUNDRY & MACHINE COMPANY

Lufkin Foundry & Machine Company, Lufkin, Texas, announces the new Lufkin side base unit, designed particularly for use in connection with any type of single cylinder gas engine.

This unit, illustrated here, is mounted on a "slide base" which eliminates the use of a tightener. It is designed to set 10 inches to the rear of its usual center, that is, 10 inches behind plumb line of pitman, which gives a slight advantage in power due to less angularity of the pitman when rods are coming out of the hole.

This type of drive affords an outlet for the salvage of so many single cylinder engines which were in general use with standard rigs before the advent of the reduction gear for pumping, pulling and drilling.

A request addressed to the company or at its several branches will bring full particulars concerning this new Lufkin unit.

National Transit Pump & Machine Company, Oil City, Pennsylvania, announces the appointment of James H. Raymaker, of Chicago, former consulting engineer with Ford, Bacon & Davis, Inc., New York, to take charge of the plant, effective January 1. His past record includes the designing of the Corliss engines, steam turbines and pumping engines, magnetic clutches, brakes and lifting magnets. He assisted in the designing of the first steam turbine built by Allis Chalmers Company for the Interborough Rapid Transit Company, Brooklyn, and the first Nordborg gas engine manufactured by Allis Chalmers Company. He will shortly move to Oil City to make his home.

The Trucktor Corporation, 158 Wilson Avenue, Newark, New Jersey, has issued a four-page folder, primarily pictorial, to show the power, rigidity, construction and power offered in the Tractor traction for the new Ford truck by adding the Trucktor. The Trucktor also provides four-wheel drive for the Ford truck. The Trucktor alone gives a six-wheel attachment using crawler tracks, is applied in front of rear wheels of the truck, is applied without changing the springs, rear axle or any part of the Ford truck. This, and other information on this new product, is carried in detail in the bulletin, No. 24, which is available upon request to the company.

Manufacturers and Supply Dealers Notes

Champion and Barber, Inc., manufacturers of the Champion All-Steel rotary hose and of New Method slotted pipe, have recently been granted the distributing privileges for Victaulic couplings for use on Naylor Spiralweld pipe covering the states of California, Utah, Nevada and Arizona. The securing of this new account gives Champion and Barber a complete line of coupling and line pipe stocks, they having previously secured the distributing rights for Naylor Spiralweld pipe.

A complete stock of both the Victaulic couplings and the Naylor Spiralweld pipe will be carried by the new distributors. The new headquarters address of the company in Los Angeles is 576 Subway Terminal building.

Announcement has been made by the manager of the Oil Equipment and Engineering Exposition, Los Angeles, that free space will be given to exhibiting models and drawings of new devices for use in the oil industry at the Second Annual Exposition being held from March 16 to 22, 1931. This free space is given in the interest of getting together the manufacturer interested in obtaining inventions and the inventor desirous of placing a new invention before the manufacturer.

These tools will be inventions only; no products that are being manufactured will be shown in this display. Each one will bear the name and address of the inventor, a complete description of the device, a statement of its purpose and the claims made for it.

Several hundred of these inventions will probably be shown at the annual exposition and they will be of vital interest to both the oil men and the manufacturers of equipment. A similar exhibit will also be presented at the permanent exposition and many of the inventors of new tools that have never been manufactured are preparing models and drawings for immediate showing.

The Oil Equipment and Engineering Exposition is also making a 40 foot by 80 foot extension to the main building. This will be used exclusively as a meeting place for the various petroleum technical societies both during the annual exposition and throughout the year. Several of the societies have a membership scattered over the various oil fields and the location of the exposition building offers them a more central meeting place than can elsewhere be found.

A screen for slides and motion pictures will be permanently placed. Facilities for darkening the room readily during daylight hours will also be provided to insure the best results at all times. No charge for this room will be made to any of the societies and they will be privileged to hold monthly or other period meetings here throughout the year.

All preparations for the Second Annual Oil Equipment and Engineering Exposition have been completed to the extent possible at this time. Preparation and forethought will do much to make this far more outstanding than was anticipated when the new buildings were completed last August and the permanent exposition, now being visited daily by oil men from other countries and from other parts of the United States as well as from the California fields, was inaugurated.

Chas. A. Butler Manufacturing Company, Okmulgee, Oklahoma, manufacturer of oil field equipment, has purchased the plant and equipment of the Deck Clamp Tank Company of that place. The tank company will be operated as a separate unit with manufacturing facilities for making everything from a water barrel to a 2000-barrel tank.

Axelson Salesmen in School

A week of intensive study was devoted to manufacturing processes by Mid-Continent members of the Axelson Manufacturing Company force when visiting the home plant at Los Angeles in December. Several members of the Mid-Continent sales organization, led by Mills Hammett, sales manager for that territory, attended the school which was conducted for all company salesmen. Speaking of the training given these men, Clyde Ellwood, vice president in charge of sales, said: "It is our contention that a well-trained salesman is of real value not only to his own organization but to those whom he serves. Our year end sales meetings are annual institutions and every moment is utilized. A definite curriculum is laid out on scheduled hours where the men are instructed in laboratory methods, manufacturing processes or servicing details. There are no final examinations but we are usually able to tell how good students our various representatives are during the ensuing six months."

Lucey Products Corporation, 224 East Brady Street, Tulsa, has the 1931 "Eluceydator" note book off the press and ready for distribution. The company will gladly mail a copy to anyone connected with the oil industry who will write to the above address requesting a copy.

Rapid Fire Prevention Company, Ltd., manufacturers of rapid water-fog operated fire prevention equipment, has appointed Harry A. Kasselbaum sales manager. Kasselbaum who has been connected with the oil industry since 1910, was formerly sales manager for Elliott Core Drilling Company, and previous to that was assistant to the president of General Petroleum Corporation. He has been active in the work of the California "wildcat" organization and with the American Petroleum Institute on the Pacific Coast.

H. A. KASSELBAUM

Offices of the company are located at 1520 East Slauson Avenue, Los Angeles.

SQUEAKS FROM THE BULL WHEEL

A spinster encountered some boys in the old swimming hole, minus everything but nature's garb, and was horrified. "Isn't it against the law to bathe without suits on, little boys?"

"Yes'm," announced freckled Tommy. "But Jimmy's father is a policeman, so you can come on in."

"What did the professor say about my voice?"

"He muttered something that sounded like a 'night in a gale.'"

Lady: "Why don't you work if you are hungry?"

Worn-out Willie: "I tried that, ma'am, and it made me hungrier."

Judge: "What were you doing in that joint when it was raided?"

Locksmith: "I was making a bolt for the door."

"Wat's up, Bill, 'urt yerself?"

"No, gotta nail in me boot."

"Wy doncher take it out then?"

"Wot! In me dinner hour?"

Explorer: "Just to show you the advance of civilization — in the past the Eskimos used to eat candles for dessert."

Old Lady: "And now, I suppose, they eat electric light bulbs."—*Life*.

"There's the piano," she said: "please play something."

He rose to his full graceful height, pushed back his long black hair and adjusted his cuffs. He sat before the piano. Something was amiss. He searched. He hunted. He turned despairingly: "Gloria," he groaned "where in the hell is the slot?"

Young Father: "What's that white cloth on the line?"

Young Mother: "That's baby's undie—the flag of our union."

"How did you get that cut on your head?"

"Hic—musta—hic bit myself."

"Gwan. How could you bite yourself up there?"

"Musta stood on a chair."

A man lost two thousand dollars in a breach of promise suit. On his way out of court some wag called out:

"Hey, ain't love WONderful?"

"Yea," returned the man promptly, "LOVE is JUst two GRAND."

They say that girl you introduced me to is pretty hard, eh?

Hard is right. It would take a diamond to make an impression on her.

Tommy—Pop, what is an illiterate?

Pop—A fellow who has intelligence enough not to read or write.

"What time do you get up in summer?"

"As soon as the first ray of the sun comes in my window."

"Isn't that rather early?"

"No. My room faces west."

OLD BILL ON PRORATION

Old Bill is a driller, all grizzled and gray,
But he still can make hole like the smartest young jay.
He started at Bradford, and then went to Kan;
He's drilled at Coalinga, Salt Creek, and Iraan.

Old Bill is a wise bird, and he said to me:
"The ills of the oil man are sure plain to see:
"Proration don't work. What good can it do,
"When they bring in new fields every week-end or two?

"Just count the new pools since proration began—
"There's Elwood and Kettleman, Oke City and Van,
"The deep pay at Big Lake, Darst Creek, and Hobbs,
"And dozens of others with oil by the gobs.

"It looks to me like a man is a fool
"To go to the trouble of proving a pool,
"When along comes proration and pinches his well
"To a couple of quarts—and even then he can't sell.

"The thing to prorate is not just production,
"But go back and strike at the root of corruption.
"Prorate that business of hunting for highs,
"And shut in all of these sub-surface guys.

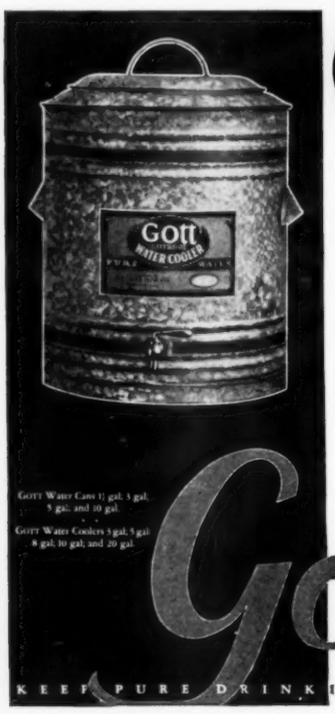
"Now take this new-fangled torsion machine;
"It might be curtailed with some kind of bean;
"So when they set off to make a survey
"It'll take 'em from now to the middle of May.

"And as for the boys that are scratching their heads,
"For ways to repressure them old worn-out beds,
"Let 'em turn their bright mind on some plan to dispose
"Of millions in tanks that's the cause of our woes.

"Geologists, too, with their samples and maps,
"And lime reefs and salt tops, and structural traps,
"Who can set at a desk and pick out a high
"In a couple of minutes as easy as pie,—

"Their sub-surface contours ought to be choked
"To three feet a month while we're so durned soaked
"With oil. If they'll follow my bright inspiration,
"They'll make a humdinger of this here proration."

A. YOUNG,
Ward Court, San Angelo, Texas.



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When you have a GOTT Water Cooler handy, you will always be assured of a fresh supply of pure drinking water kept delightfully cool. *Order one from your supply store . . . now!*

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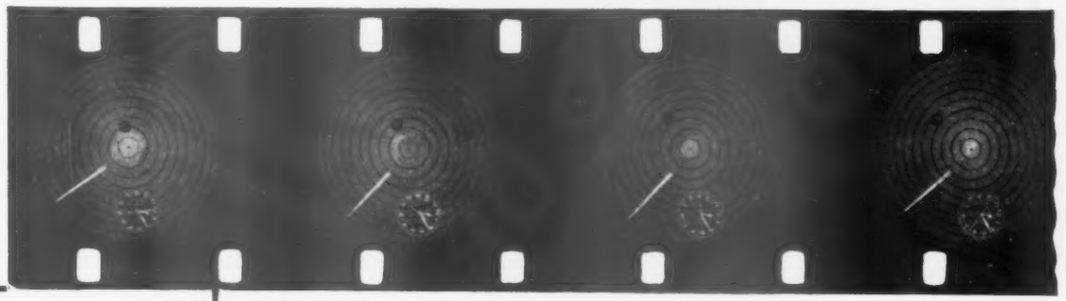
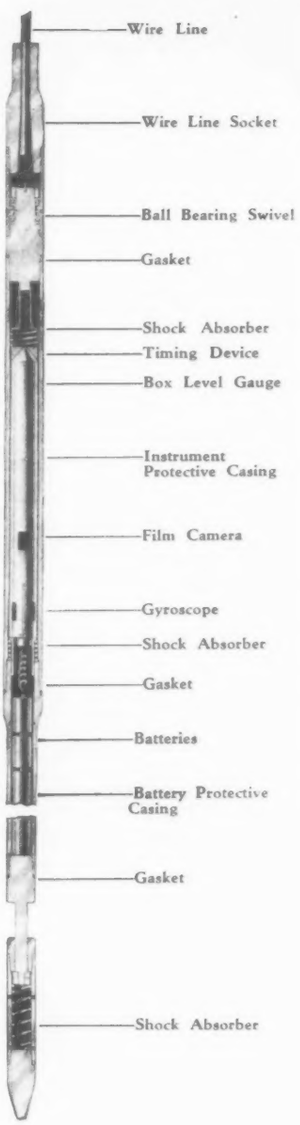
KEEP PURE DRINKING WATER ALWAYS HANDY





PHOTOGRAPHS TELL THE STORY

At short intervals, as a *SURWEL Gyroscopic Clinograph* is lowered into the drill hole, a light flashes—a picture is made. Those pictures tell the story of just where you are going.

If you're off the vertical they tell *accurately* how much. But they tell *more*—*more* than you can find out by any other method, i.e. the *actual direction of the deviation.*

Experienced engineers stand ready to make these surveys for you. The operation is speedy—the cost reasonable — the resulting information invaluable. Find out *now* why some of your wells are dry or not producing as you anticipated. Send for literature.

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402 Petroleum Building

Houston, Texas
1420 Esperson Building

SURWEL Clinograph

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Wico Electric Company.....
Williamsport Wire Rope Company....
J. H. Williams & Company.....
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Wright Manufacturing Company.....
Wyatt Metal & Boiler Works.....
T. T. Word Supply Company.....

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Youngstown Sheet & Tube Company..

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NEW YEAR
NEW CYCLE
NEW RESO-
LUTION

START the NEW YEAR and the NEW CYCLE WITH the JUMP on COMPETITORS

THEY fall together. A brand new year, a brand new cycle, and a brand new resolution. Will we go into this new year and this new cycle with a lackadaisical resolution about some minor point? Or will we do as too many business men did at the beginning of the new cycle nearly a decade ago . . . walk along with our eyes shut, unrestrained by common sense? Or will we start this new year and this new cycle with a new resolution that we will make money out of this new period of business expansion? It is easy to make the right resolution now. It is harder, however, to make the resolution extend over a period of seven to ten years.

More fortunes will be made in the oil industry in this new cycle. They will be made by oil men who have the courage to jump in now and get a start over fair weather competitors. Oil men of such large-mindedness know that it is wasteful to try to produce oil with worn-out equipment. They are buying new oil field, pipe line, and refinery supplies to do the present job at less cost and to be ready for the inevitable, increasing demands that follow in the inexorable alternating of periods of expansion and periods of inventory adjustments.

Start the New Year and the New Business Expansion Cycle by calling the Norvell-Wilder Man . . . NOW!

Norvell-Wilder
Supply Company

BEAUMONT HOUSTON SHREVEPORT FORT WORTH

during

1931

Our Wish

for you and the entire industry

May every day
—be a better day.

May every week
—be a better week.

May every month
—be a better month.

HUGHES TOOL COMPANY

Service Plants
Los Angeles, Calif.
Oklahoma City, Okla.
Midland, Texas

Main Office and Plant
HOUSTON, TEXAS

Export Office
Woolworth Bldg.,
New York City

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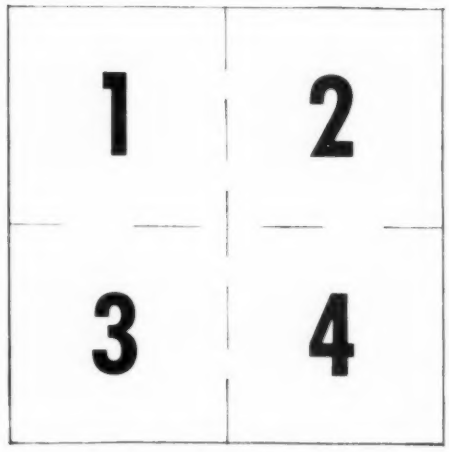

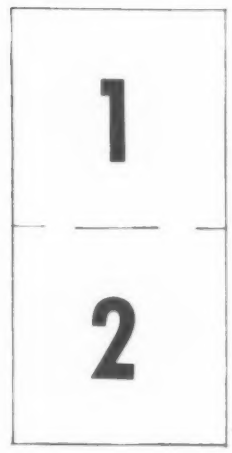

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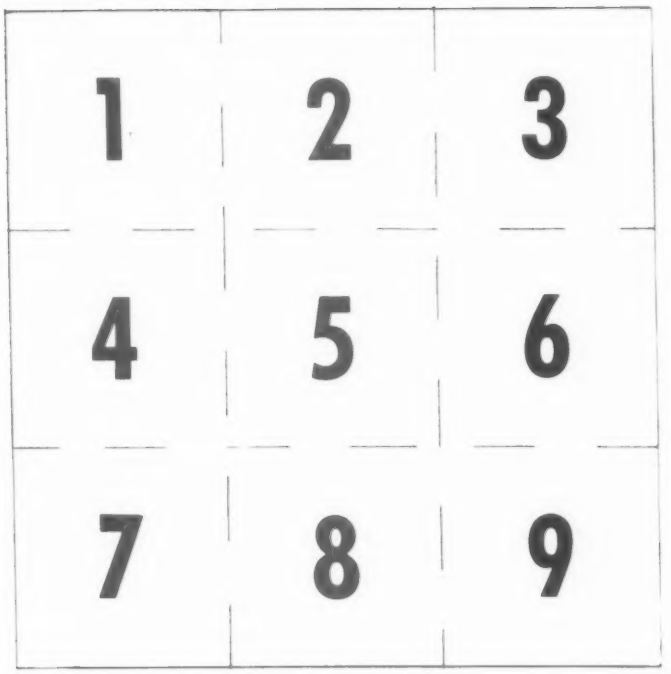
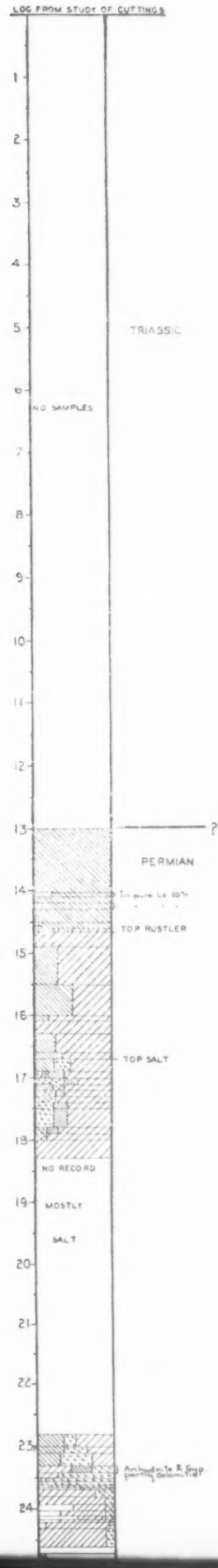


Status of Operations in Hobbs, New Mexico, Field

Company—	Sur. Elev.	Top Anhydrite	Top Salt	Top Brown Lime	Producing Horizon	Total Depth	Date Comp.	Initial Prod.	Cumulative Prod. 7-10 to 12-1-30
Amerada Petroleum Corporation—									
H. D. McKinley 1	3662	1467	1564	2825	4063-4230	4230	7- 1-30	8,500	130,554
H. D. McKinley 2	3659	1446	1615	2740	4002-4208	4208	7- 5-30	13,000	193,959
H. D. McKinley 3	3659	1460	1580	2795	4052-4170	4170	8-13-30	14,000	81,036
H. D. McKinley 4	3662	1475	1595	2809	4068-4198	4198	9-23-30	7,500	17,798
State 1-A	3643	1505	1660	2757	4001-4160	4160	8- 8-30	19,200	108,236
State 2-A	3656	1529	1680	2770	4009-4160	4160	9-25-30	2,657	9,705
State 1-B	3653	1460	1680	2800	4134-4214	4214	9-11-30	9,000	28,774
State 2-B	3655	1600	1720	2803	4018-4207	4207	9- 6-30	1,718	11,115
State 3-B	3650	1560	1695	2816	4050-4191	4191	10-28-30	19,667	16,377
State 4-B	3656	1580	1690	2840	4037-4214	4214	11- 4-30	25,175	9,569
State 1-C	....	....	....	....	.....	1550	.....	....	Drl.
Atlantic Oil Producing Company—									
W. D. Grimes 1	3653	1545	1740	2875	4122-4242	4242	10-21-30	3,078	4,374
State-Bradley 1	3628	1495	1655	2810	4030-4205	4205	9-12-30	5,378	18,506
C. Bordages et al—									
Hughes 1	3576	....	1660	....	.....	4012	4-26-29	Co to DD	
The California Company—									
State 1	3651	1544	1660	2767	4158-4191	4191	8-14-30	2,075	26,279*
State 2	3655	1531	1712	2760	4058-4171	4171	9-17-30	18,792	....*
State 3	3652	1585	1737	2760	4096-4175	4175	10-22-30	3,758	....*
State 4	3649	1475	1630	2770	4034-4170	4170	10-22-30	9,504	33,711*
The California Co. et al									
H. D. McKinley 1	3654	1620	1750	2925	4196-4224	4224	10-14-30	7,452	12,268
Continental Oil Company—									
State 1-A	3645	1530	1665	2784	-4178	4178	9-25-30	16,880	24,941
State 2-A	3640	1595	1712	2765	4020-4184	4184	10-10-30	3,013	7,008
State 3-A	3643	1500	1625	2780	4040-4208	4208	10- 5-30	25,531	33,601
State 1-B	3629	1452	1616	2760	3996-4183	4183	9- 9-30	2,211	12,414
State 2-B	3635	1420	1700	2740	4005-4174	4174	10- 1-30	2,200	6,055
State 3-B	3635	1525	1655	2752	4017-4192	4192	10-14-30	16,718	23,209
State 1-C	3622	1500	1660	....	4040-4178	4178	12- 7-30	20,671	....
State 1-E	....	....	....	....	.....	....	.....	....	Lcn.
Empire Gas & Fuel Company—									
C. Fowler 1	3643	1460	1594	2780	4028-4175	4175	7-11-30	12,000	140,615
C. Fowler 2	3644	1460	1600	2790	4108-4201	4201	9- 9-30	1,426	11,010
C. Fowler 3	3643	1485	1640	2796	4190-4212	4212	11-13-30	5,994	3,102
B. Hardin 1	3665	1490	1630	2810	-4209	4209	9-13-30	11,340	35,852
B. Hardin 2	3668	1480	1635	2818	4055-4210	4210	9-25-30	5,702	14,692
B. Hardin 3	3663	1495	1805	2835	4120-4220	4220	11-22-30	8,683	....
Geo. F. Getty Oil Co.—									
H. D. McKinley 1	3654	1460	1660	2765	4116-4200	4200	7- 4-30	11,000	153,756
H. D. McKinley 2	3651	1465	1655	2765	4100-4202	4202	7-14-30	20,000	215,795
H. D. McKinley 3	3656	1450	1580	....	.....	2765	.....	....	....
H. D. McKinley 4	3658	1475	1605	2800	4130-4170	4219	8-14-30	14,060	69,091
H. D. McKinley 5	....	....	....	....	.....	....	.....	Lcn. Abn.	
Gypsy Oil Company—									
W. Graham 1	3670	1440	1680	2818	4168-4225	4225	9- 8-30	4,406	20,326
W. D. Grimes 1	3642	1435	1616	....	4010-4160	4160	7- 4-30	18,000	219,200
W. D. Grimes 2	3637	1425	1585	2757	3982-4152	4152	8-21-30	19,950	76,093
W. D. Grimes 3	3634	1460	1610	2763	3975-4154	4154	8-25-30	21,972	86,274
W. D. Grimes 4	3640	1510	....	2765	4026-4153	4153	9-25-30	8,165	18,915
W. D. Grimes 5	3632	1495	1620	2798	4022-4192	4192	9- 7-30	5,785	20,111
W. D. Grimes 6	3626	1510	1640	2770	3985-4166	4166	10- 4-30	9,493	14,679
Hobbs High, Inc.—									
Tatum 1	3604	1610	1850	3075	.....	4356	11- 5-30	† (W.S. 4315-56)	
Humble Oil & Ref. Co.—									
D. A. Bowers 1	3657	....	1592	2752	4061-4106	4215	1-20-30	8,500	125,675*
D. A. Bowers 2-A	3658	1430	1650	2780	4100-4208	4208	8-11-30	8,400	46,098
D. A. Bowers 3	3644	1440	1589	2772	4096-4202	4202	8-24-30	13,200	55,602
D. A. Bowers 4	3645	1450	1605	2761	....-4206	4206	8-24-30	15,350	60,952
D. A. Bowers 5	3653	1440	1600	2785	....-4215	4215	8-31-30	16,000	....*
D. A. Bowers 6	3653	1438	1596	....	.....	2750	6-30-30	....	....
D. A. Bowers 7	3657	1445	....	....	.....	2750	6-30-30	....	....
D. A. Bowers 8	3647	1465	1596	2785	4150-4215	4215	9-24-30	2,981	10,052
D. A. Bowers 9	3649	1460	1585	2790	4087-4240	4240	9-24-30	16,423	33,866
D. A. Bowers 10	3644	1480	1592	2770	4085-4220	4220	10-21-30	15,098	13,080
D. A. Bowers 11	....	....	....	....	.....	....	.....	Lcn. Abn.	
State 1-A	3661	....	1720	2815	4060-4215	4215	10-21-30	17,302	14,685
State 2-A	3661	1475	1710	2893	4150-4230	4230	11-29-30	3,960	....
State 3-A	3666	1595	1700	2898	4150-4220	4220	11-29-30	2,786	....
Humble-Kirby Petroleum Co.—									
W. D. Grimes 1	3644	1530	1602	2840	4055-4223	4223	10-13-30	17,237	19,201
Landreth Production Corp. et al—									
State 1-A	3673	1680	1835	3045	.....	4520	8- 8-30	† (W.S. 4447-4520)	
State 1-B	3637	1500	1630	2754	4010-4179	4179	8-30-30	2,770	22,814
State 2-B	3639	1520	1665	2752	4050-4179	4179	9-12-30	3,758	17,893
State 1-C	3642	1620	1720	2940	.....	3930	.....	....	Drl.
Mid-Continent Petroleum Corp.—									
C. Fowler 1	3652	1555	1670	2880	4145-4220	4220	11-28-30	2,592	....
Mid-West Refining Co.—									
E. H. Byers 33	3612	1510	1655	2800	3990-4025	4025	8- 8-30	21,250	88,702
W. S. Capps 31	3602	1540	1695	2830	4065-4220	4220	8- 8-29	785	38,611
L. Leech 24	3594	1594	1690	2910	4105-4165	4165	9-29-29	950	36,323
H. D. McKinley 1	3626	1425	1618	2755	4010-4190	4190	10-20-30	9,526	9,042
H. D. McKinley 6	3626	1460	1725	2990	....-4202	4202	10-12-30	2,200	6,054
H. D. McKinley 26	3625	1490	1656	2800	4000-4208	4208	12-11-30	12,215	....
State 3 (Sec. 4)	3609	1450	1625	2805	4005-4175	4175	8-20-30	2,138	23,521
State 4 (Sec. 4)	3607	1460	1625	2807	4015-4190	4190	9-25-30	2,786	12,834
State 8 (Sec. 4)	3625	1410	1568	2772	4026-4175	4175	8-21-30	19,850	81,506
State 26-A (Sec. 4)	3604	1520	1645	2825	4030-4190	4190	8-15-30	1,555	15,406
State 26-B (Sec. 4)	3606	1457	1680	2790	4024-4190	4190	8-21-30	2,203	13,487
State 26-C (Sec. 4)	3606	1510	1654	2830	4020-4190	4190	11-28-30	2,527	....
State 33 (Sec. 4)	3612	1430	1568	....	4018-4175	4175	8-28-30	4,536	26,883
State 11 (Sec. 5)	....	....	....	....	.....	....	.....	....	Rig

SHELL PET. CORP.
McKINLEY 1
SW,SW,SW 19-18-38
LEA CO. N.MEX.



T. CORP.
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OF CUTTINGS

SHELL PET. CORP.
B.L.THORPE 1
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LEA CO. N.MEX.

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PERMIAN

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?

PERMIAN

Tansill Lm. equiv.

TOP RUSTLER

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Anhydrite & Gyp partly dolomitic

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P. O. & G. | Tidal Oil Co | Shell, Gypsy, Shell, Gypsy | Continental, State | Texas, Amerada
9 | 10 | 11 | 12
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Gypsy | H. O. & R. | Continental, Landreth, State | Amerada | Continental "E"
28 | 27 | 26 | 25
Amerada | Continental, State | Magnolia | Gypsy | Shell | H. O. & R. "A", State
Texas, Andrews

Continental | Gypsy | Continental | Shell | Simms | P. O. & G. | Pueblo | Gypsy
33 | 34 | 35 | 36
National Securities, T.A. Linam, State | Simms, State | Amerada | Tidal Oil Co | Empire

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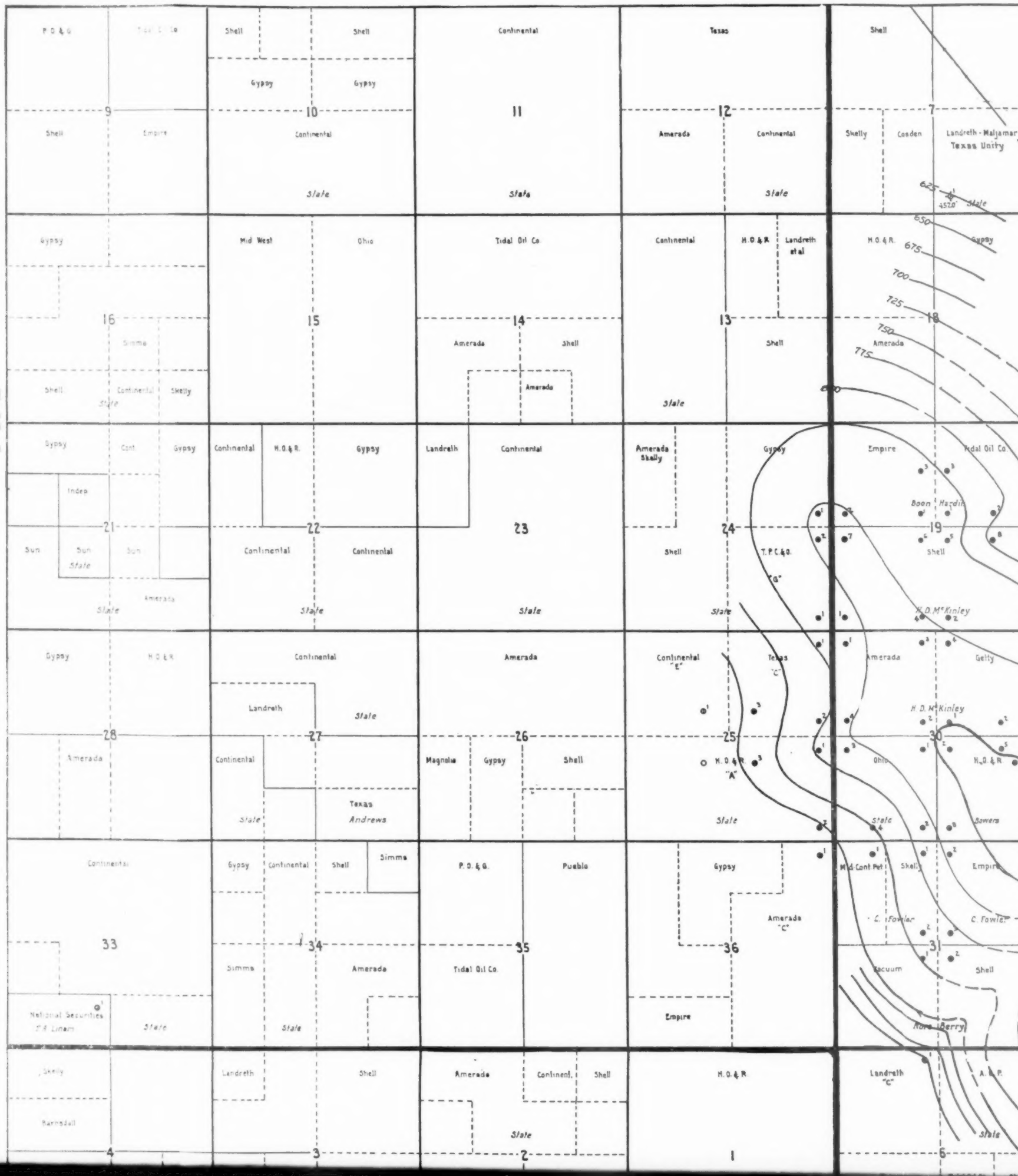
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C. Fowler
National Securities
S. R. Linam
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Vacuum
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Nora Berry
Skelly
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Amerada
Continent.
Shell
H. O. & R.
Landreth "C"
A. & P.
Barnsdall
State
State
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3
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1 Issue

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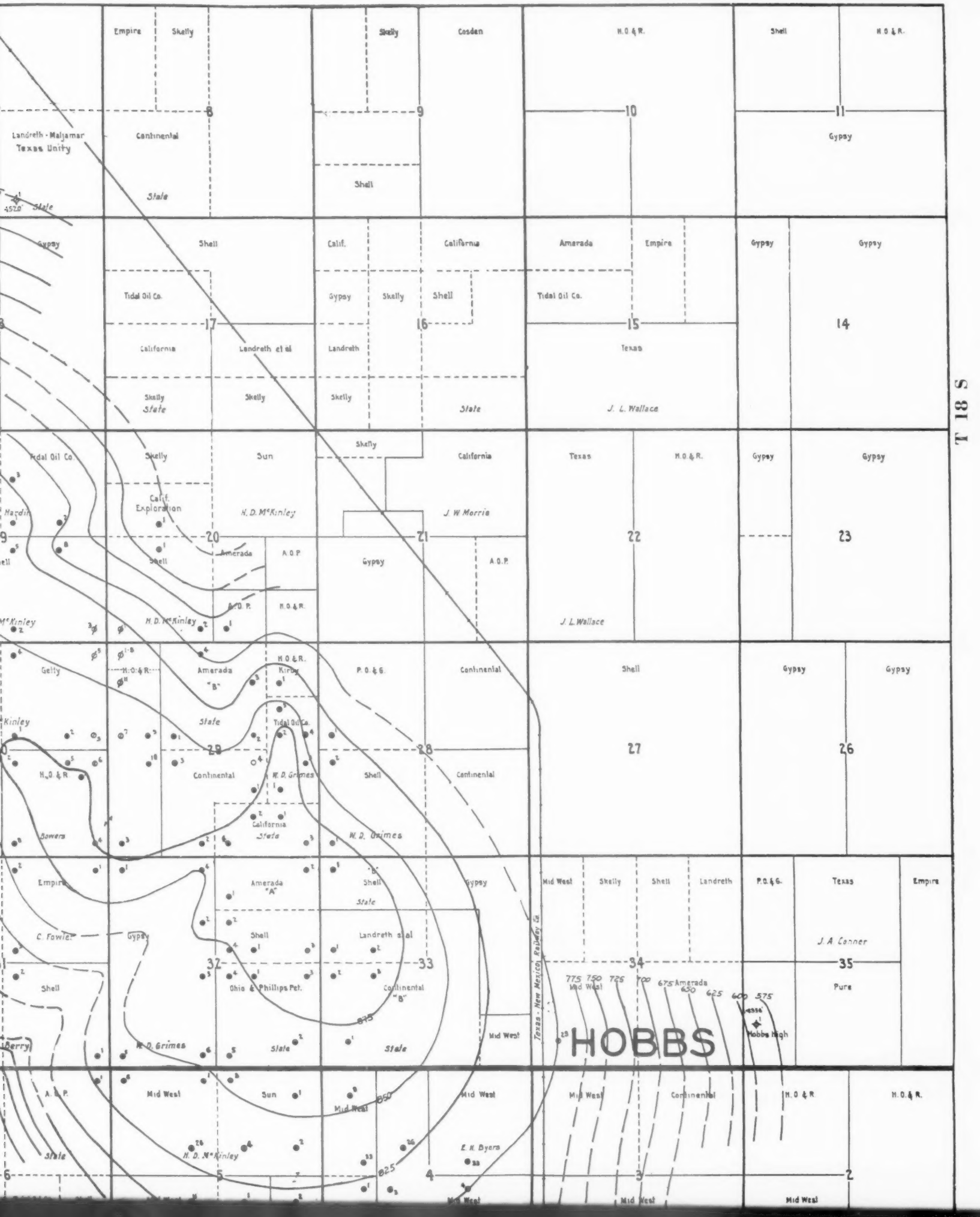
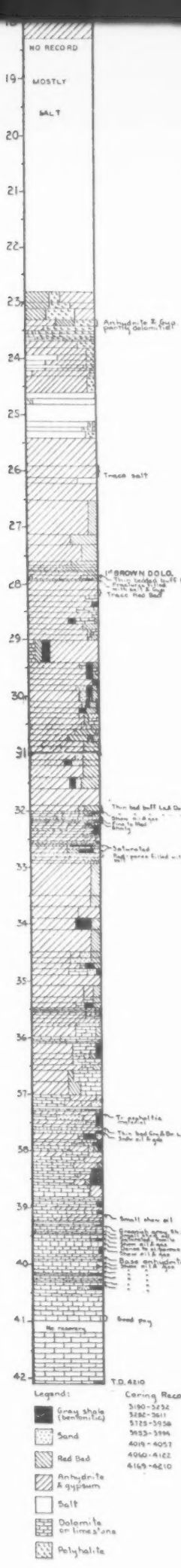
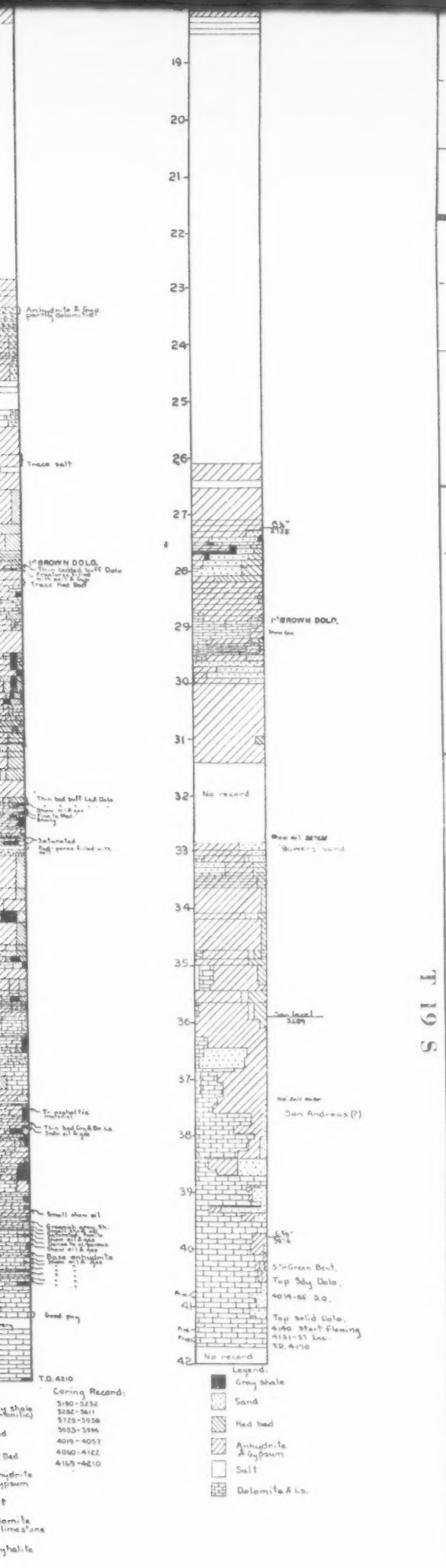
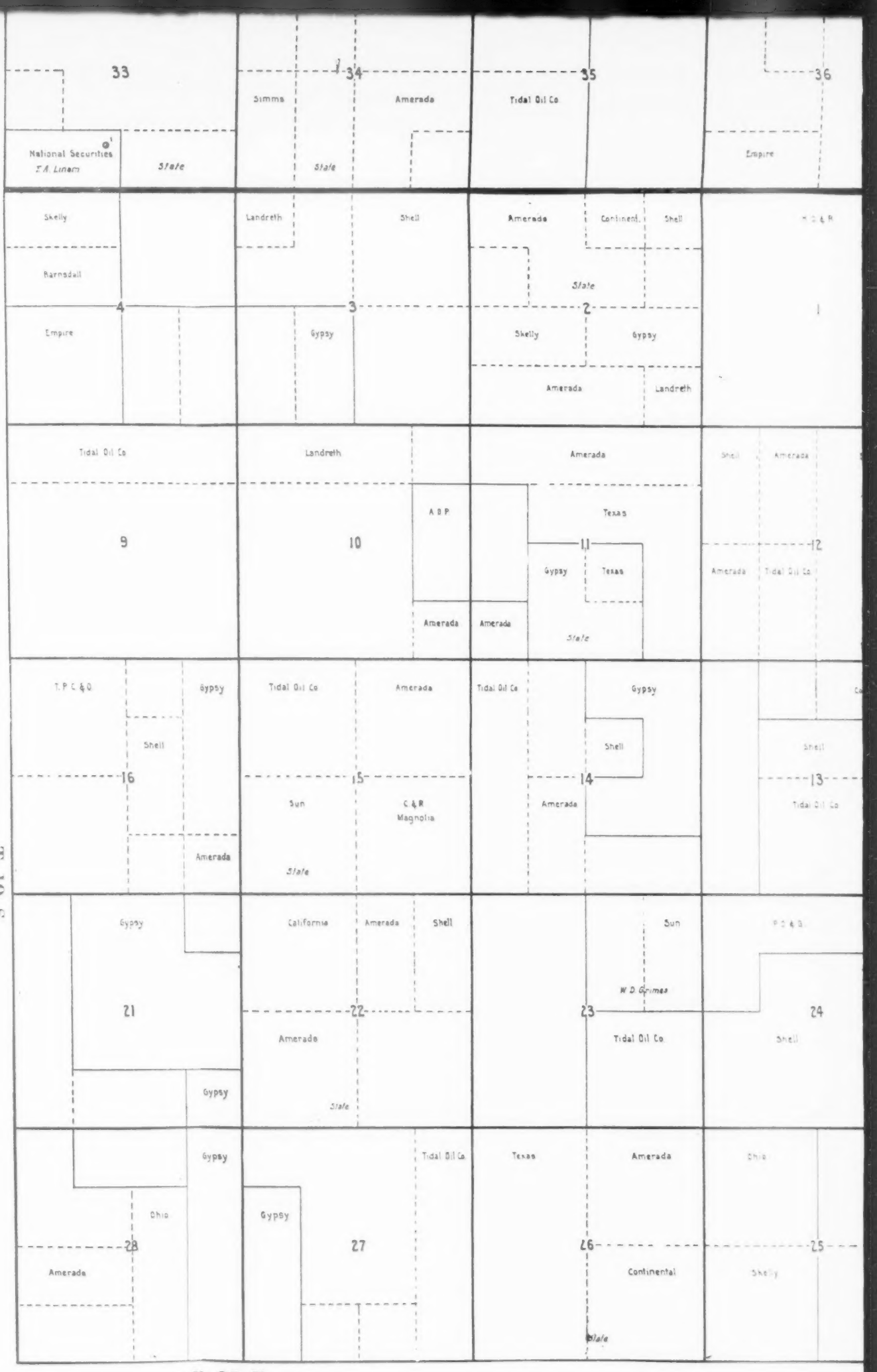


D. A. Bowers 10	3644	1480	1594	2778	4060-4220	4215	10-21-30	17,302	14,685
D. A. Bowers 11	....	....	....	....	.....	....	.....	Lcn. Abn.	
State 1-A	3661	....	1720	2815	4060-4215	4215	10-21-30	17,302	14,685
State 2-A	3661	1475	1710	2893	4150-4230	4230	11-29-30	3,960	....
State 3-A	3666	1595	1700	2898	4150-4220	4220	11-29-30	2,786	....
Humble-Kirby Petroleum Co.—									
W. D. Grimes 1	3644	1530	1602	2840	4055-4223	4223	10-13-30	17,237	19,201
Landreth Production Corp. et al—									
State 1-A	3673	1680	1835	3045	.....	4520	8- 8-30	† (W S. 4447-4520)	
State 1-B	3637	1500	1630	2754	4010-4179	4179	8-30-30	2,770	22,814
State 2-B	3639	1520	1665	2752	4050-4179	4179	9-12-30	3,758	17,893
State 1-C	3642	1620	1720	2940	.....	3930	.....	....	Drl.
Mid-Continent Petroleum Corp.—									
C. Fowler 1	3652	1555	1670	2880	4145-4220	4220	11-28-30	2,592	....
Mid-West Refining Co.—									
E. H. Byers 33	3612	1510	1655	2800	3990-4025	4025	8- 8-30	21,250	88,702
W. S. Capps 31	3602	1540	1695	2830	4065-4220	4220	8- 8-29	785	38,611
L. Leech 24	3594	1594	1690	2910	4105-4165	4165	9-29-29	950	36,323
H. D. McKinley 1	3626	1425	1618	2755	4010-4190	4190	10-20-30	9,526	9,042
H. D. McKinley 6	3626	1460	1725	2990	....-4202	4202	10-12-30	2,200	6,054
H. D. McKinley 26	3625	1490	1656	2800	4000-4208	4208	12-11-30	12,215	....
State 3 (Sec. 4)	3609	1450	1625	2805	4005-4175	4175	8-20-30	2,138	23,521
State 4 (Sec. 4)	3607	1460	1625	2807	4015-4190	4190	9-25-30	2,786	12,834
State 8 (Sec. 4)	3625	1410	1568	2772	4026-4175	4175	8-21-30	19,850	81,506
State 26-A (Sec. 4)	3604	1520	1645	2825	4030-4190	4190	8-15-30	1,555	15,406
State 26-B (Sec. 4)	3606	1457	1680	2790	4024-4190	4190	8-21-30	2,203	13,487
State 26-C (Sec. 4)	3606	1510	1654	2830	4020-4190	4190	11-28-30	2,527	....
State 33 (Sec. 4)	3612	1430	1568	....	4018-4175	4175	8-28-30	4,536	26,883
State 11 (Sec. 5)	....	....	....	....	.....	....	.....	....	Rig
State 1 (Sec. 9)	3600	1533	1690	2825	4055-4220	4245	12-17-28	700	32,246
State 11 (Sec. 9)	3602	1515	1715	2855	.....	3400	.....	....	Drl.
State 8 (Sec. 10)	3603	1540	1690	2835	4072-4200	4200	8-16-30	1,058	13,057
State 24 (Sec. 10)	3586	1590	1720	2910	4125-4187	4187	1- 6-30	650	33,544*
State 36 (Sec. 10)	3592	1580	1700	2880	4130-4177	4177	6-12-30	525	....*
State 1 (Sec. 15)	3587	1590	1690	2875	4135-4143	4143	7- 1-30	6,500	45,285*
State 13 (Sec. 15)	3597	1590	1725	2905	4155-4178	4178	6-29-30	425	....*
O. B. Terry 8	....	....	....	....	.....	200	.....	....	Drl.
O. B. Terry 13	3586	1580	1718	2860	4110-4179	4179	1-22-30	1,000	37,562
O. B. Terry 26	3593	1585	1695	2865	4125-4185	4185	9-29-30	826	4,440
B. L. Thorp 11	3601	1578	1630	2860	.....	3840	.....	....	Drl.
Turner 29	3620	1575	1720	2850	.....	3370	.....	....	Drl.
A. L. Wright 6	3596	1615	1770	2920	.....	4500	2-12-30	† (W.S. 4228-4500)	
Ohio Oil Company—									
State 1 (Sec. 9)	3591	....	1705	2945	3998-4207	4312	12- 1-29	50	....
State 1 (Sec. 30)	3655	1435	1576	2805	4040-4205	4205	7-16-30	10,000	83,252
State 2 (Sec. 30)	3653	1428	1580	2805	4122-4206	4206	9-25-30	5,500	12,645
State 3 (Sec. 30)	3659	1480	1605	2810	4120-4208	4208	10- 1-30	7,128	11,881
State 4 (Sec. 30)	3657	1540	1672	2865	....-4215	4215	11-28-30	3,693	....
Ohio Phillips Pet. Co.—									
State 1 (Sec. 32)	3634	....	1616	2760	4000-4175	4175	6-26-30	7,500	129,741*
State 2 (Sec. 32)	3634	1442	1603	2774	4032-4175	4175	8-12-30	5,900	39,886
State 3 (Sec. 32)	3636	1505	1664	2750	4010-4175	4175	8-14-30	13,413	88,235
State 4 (Sec. 32)	3640	1470	1600	2772	....-4175	4175	9-18-30	19,176	....*
State 5 (Sec. 32)	3625	1440	1630	2765	4063-4176	4176	10- 9-30	7,096	11,835
Prairie Oil & Gas Co.—									
Crump 1	3590	1575	1690	2890	4139-4145	4145	6-20-30	5,000	57,357*
Crump 2	3590	1588	1690	2892	4137-4172	4172	6-26-30	1,080	....*
W. D. Grimes 1	3653	1595	1750	2800	....-4191	4191	9-22-30	8,845	20,103
Frank Selman 1	3595	1580	1704	2897	4153-4180	4180	6-18-30	615	20,699
Shell Petroleum Corp.—									
Nora Berry 1	3635	1478	1588	2800	3978-4195	4195	9-14-30	2,850	13,245
Nora Berry 2	3642	1510	1670	2832	4105-4210	4210	11-13-30	2,171	1,739
W. D. Grimes 1	3643	1575	1719	2770	4028-4175	4175	9-22-30	6,156	16,396
W. D. Grimes 2	3645	1555	1702	2803	4076-4190	4190	9-29-30	18,605	36,026
H. D. McKinley 1	3661	1462	1580	2782	4026-4210	4210	6-16-30	12,000	145,368
H. D. McKinley 2	3659	1470	1620	2785	4075-4200	4220	8-31-30	17,042	56,521
H. D. McKinley 3	....	....	....	....	.....	....	.....	....	....
H. D. McKinley 4	3659	1460	1605	2810	4041-4156	4200	9-14-30	10,100	23,063
H. D. McKinley 5	3661	1475	1635	2825	4005-4195	4200	9-12-30	5,700	18,456
H. D. McKinley 6	3663	1480	1631	2816	4077-4174	4200	9-13-30	11,400	33,595
H. D. McKinley 7	3667	1447	1645	2806	4035-4210	4210	9-14-30	7,344	24,272
H. D. McKinley 8	3657	1505	1666	2870	4050-4210	4210	11-11-30	12,960	5,369
H. D. McKinley 1-B	3657	1595	1740	2915	4084-4210	4210	10-13-30	8,489	13,472
H. D. McKinley 2-B	3652	1565	1705	2866	4050-4205	4205	10-13-30	23,911	31,688
State 1-A	3637	1456	1615	2753	3936-4175	4175	6-11-30	7,500	103,158*
State 2-A	3642	1466	1630	2755	4011-4185	4185	8-15-30	9,330	....*
State 3-A	3636	1500	1616	2750	4025-4185	4185	8-26-30	1,055	18,930
State 4-A	3638	1450	1595	2758	4040-4175	4175	9- 8-30	9,744	....*
State 1-B	3656	1584	1710	2770	4050-4175	4175	9-29-30	2,693	10 486
O. B. Terry 1	3593	1556	1726	2947	.....	4238	11-25-29	† (W.S. 4235-38)	
B. L. Thorp 1	3590	1596	1720	2890	4142-4155	4170	1-27-30	1,130	39,535
Skelly Oil Company—									
C. Fowler 1	3644	1494	1697	2810	4030-4215	4215	9- 9-30	9,300	29,986
C. Fowler 2	3646	1531	1675	2830	4090-4210	4210	11-13-30	3,758	2,280
Sun Oil Company—									
H. D. McKinley 1	3624	1460	1616	2784	3984-4175	4175	8- 4-30	11,080	64,911
H. D. McKinley 2	3640	1460	1710	2780	4028-4175	4175	10-14-30	4,406	8,654
H. D. McKinley 3	3626	1450	1690	2780	4101-4175	4175	10-26-30	8,813	8,516
H. D. McKinley 4	3622	1492	1590	2795	4047-4200	4200	12-12-30	21,708	....
The Texas Company—									
H. D. McKinley 1	3608	1425	1565	2800	4080-4183	4185	9- 8-30	6,864	22,205
H. D. McKinley 2	3612	1438	1634	2800	4090-4175	4175	10- 7-30	9,817	14,981
H. D. McKinley 3	3604	1460	1700	2845	4055-4175	4175	10- 9-30	6,350	10,939
Frank Selman 1	3589	1600	1728	2893	4145-4183	4183	8-12-30	375	6,626
State 1-C	3663	1465	1640	2815	....-4206	4206	8-12-30	6,390	47,827
State 2-C	3660	1505	1605	2840	4080-4210	4210	9-25-30	9,930	21,974
State 3 C	3665	1505	1628	2835	4085-4240	4240	12- 8-30	10,238	....
Texas Pacific Coal & Oil Co.—									
State 1-G	3667	1474	1625	2822	4140-4193	4214	7- 2-30	9,000	127,568
State 2-G	3672	1450	1625	2820	4150-4218	4218	11- 7-30	2,981	3,404
Tidal Oil Company—									
W. D. Grimes 1	3651	1546	1700	2730	3975-4150	4160	7- 7-30	24,000	258,329*
W. D. Grimes 2	3656	1550	1700	2765	4027-4167	4176	9-15-30	1,814	....
W. D. Grimes 3	3649	1545	1679	2785	4060-4120	4190	10- 7-30	16,276	....*
W. D. Grimes 4	3647	1510	1710	2815	4050-4175	4194	11-17-30	21,270	11,896*
W. D. Grimes 5	3650	1580	1705	2815	.....	3880	.....	....	Drl.
B. Hardin 1	3662	1475	1770	2840	4035-4205	4205	9- 9-30	7,808	25,933
B. Hardin 2	3664	1535	1700	2845	4040-4235	4240	11- 6-30	10,594	4,800
B. Hardin 3	3664	1535	1675	2850	4150-4212	4220	11- 8-30	9,720	4,402
Vacuum Oil Company—									
Nora Berry 1	3648	1520	1675	2847	....-4190	4190	11-18-30	2,138	....
Walker Oil Corporation—									
O. B. Terry 1	3583	....	1747	2912	4073-4193	4193	10- 9-29	575	73,246*
O. B. Terry 2	3583	1580	1695	2875	4130-4190	4190	6-18-30	525	....*

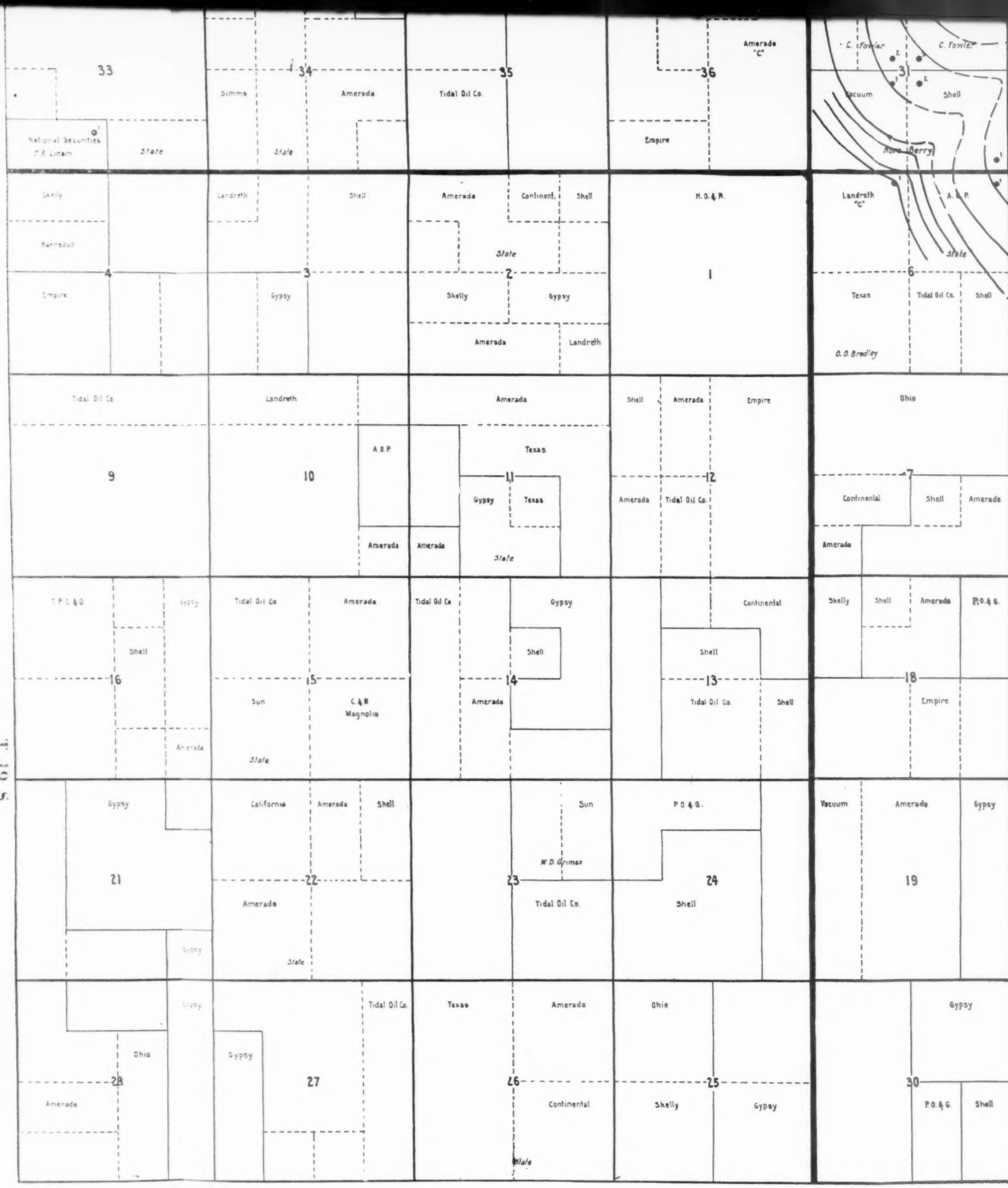
† Dry. *Indicates combined production of wells on same 40-acre unit in respect to individual leases.







Map of the Hobbs Pool, Lea County, New Mexico



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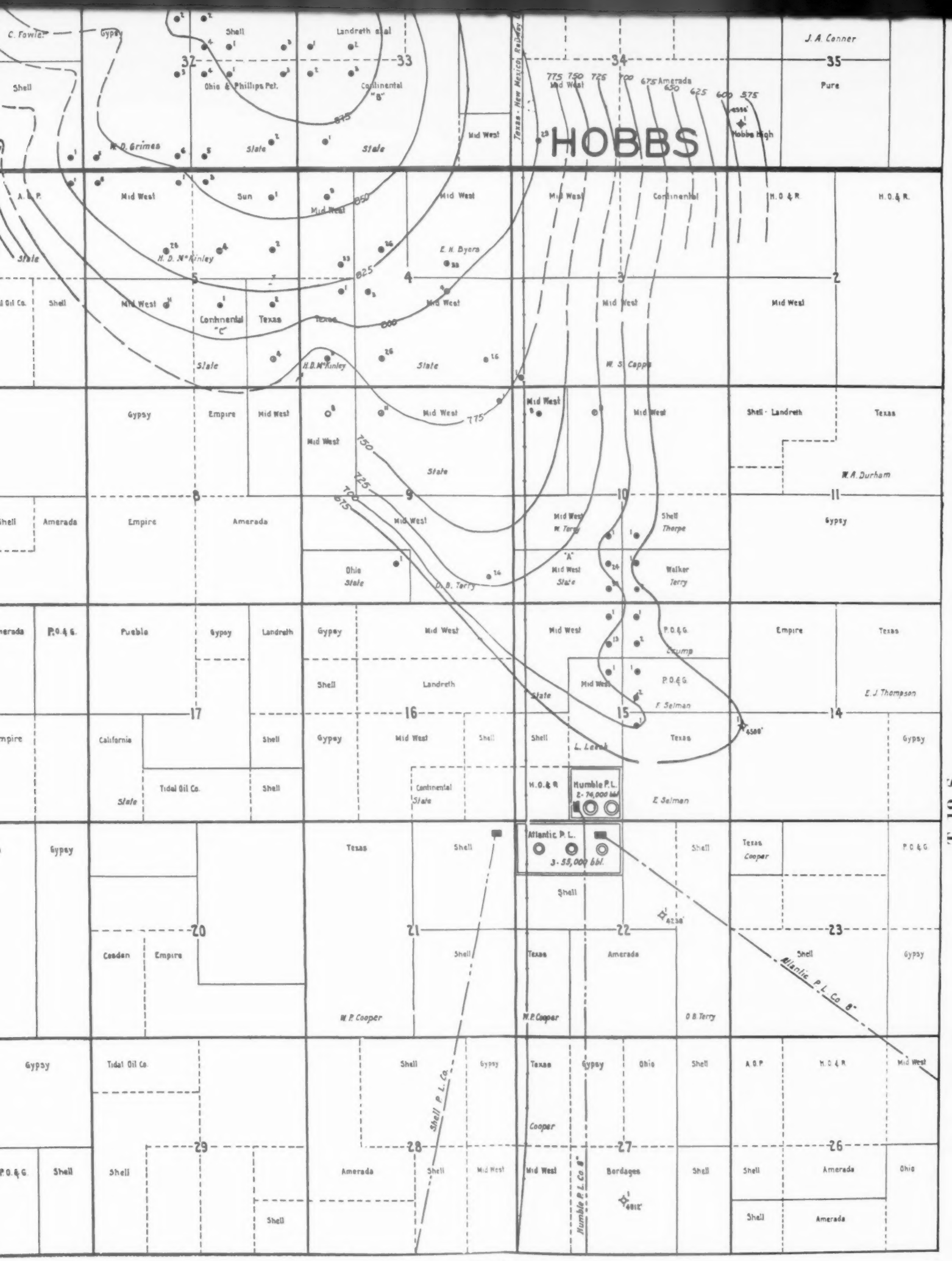
Map of the Hobbs Pool, Lea County, New Mexico. Contours are bas



re based on top of the Brown Lime using a 25 foot interval.